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Impact of the Smoother Sailing elementary school counseling program: a meta-analysis

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**Impact of the Smoother Sailing elementary school counseling program:
A meta-analysis**

by

Mariann H. Bryant Culver

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

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DEDICATION

This dissertation is dedicated to the memory of Janice Ann Hannaford Bryant and Harriet Evangeline Wilson Hannaford: two women of outstanding character, who persevered throughout life and provided unconditional love.

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CHAPTER 1. General Introduction

Comprehensive, developmental, elementary school counseling programs address a broad spectrum of student needs. Researchers in the school counseling field state that the need for accountability is high, and few school staff participate in collecting evidence about the impact of guidance programs (Fairchild, 1993). To demonstrate the effectiveness of an elementary school counseling program, counseling staff need to document the impact of the program on student behaviors and the enhancement of academic success of students as well as the successful implementation of a comprehensive, developmental program (Dahir, 2001; Fairchild, 1993).

Brief History of Elementary School Guidance

Elementary school counselors first appeared in the professional literature in 1910, when counselors were appointed to the position, often in addition to their teaching responsibilities. Their duties reflected the duties assigned to counselors in the secondary schools which were vocational in nature including such responsibilities as helping teachers make connections in their lessons to occupational information, urging students to remain in school, and recommending conferences with parents of students failing or leaving school (Gysbers & Henderson, 2000).

Midway through the 20th century, there were changes in legislation and counselor role. Several pieces of legislation from the late 1940s to the mid 1960s, such as the National Defense Education Act in 1958 and the Elementary and Secondary Education Act in 1965, provided for funding guidance activities and for training school counselors (Paisley & Borders, 1995). In the 1960s and continuing into the 1980s, the elementary counselor role shifted from an occupational and vocational emphasis to group counseling and enhancement of the learning climate. Counselors' interactions with students became developmental and not crisis-centered. Working with individuals and groups of students was emphasized (Gysbers & Henderson,

2000). A developmental counseling model promotes social and emotional development in all students as well as mastery of knowledge, skills, and attitudes that promote school success (Gysbers & Henderson, 1997; Myrick, 1989; Sink & MacDonald, 1998). School counselors moved away from a model of delivering a set of services to a model of counseling as a comprehensive, developmental program. The American School Counselor Association (ASCA) issued position statements in the mid 1970s and mid 1980s in favor of establishing comprehensive and developmental guidance and counseling programs. The counselor's work became curriculum and program oriented and the counselor taught life skills (Sink & MacDonald, 1998).

Comprehensive Developmental Guidance Programs

The National Standards for School Counseling Programs (American School Counselor Association, 1997) focus on academic, career, and personal-social development. The academic standards support development of attitudes, knowledge, and skills for effective learning. The career standards support students' use of strategies to achieve career goals. The personal-social standards encourage developing an understanding of self and others (Dahir, 2001).

The current focus of school counseling programs is comprehensive, collaborative, and developmental. The counseling program focuses on three domains of development—personal-social, educational, and career. The program encourages healthy development for all students. The National Standards for School Counseling Programs (American School Counselor Association, 1997) further address the comprehensiveness of school counseling programs by delineating a range of services including individual, small group, and classroom counseling activities; consultation with parents, educational staff, and outside agencies; and coordination of guidance-related school activities. The school counselor integrates activities and interventions from the classroom guidance curriculum within the regular classroom curriculum and combines programs within the school with community agency programs or services

(Paisley, 2001). Two comprehensive developmental counseling program models are described in the following paragraphs.

R. D. Myrick (1989) created a K-12 comprehensive developmental model comprised of six interventions. Three of these are individual counseling, small group counseling, and classroom guidance/large group guidance. Small group counseling is defined as working with 6 to 10 students while classroom guidance/large group guidance is approximately 25 to 30 students. Another intervention, consultation, is characterized as working with administrators, teachers, parents, and other professionals within a school or agency. The coordination of counseling activities is the fifth intervention. The last intervention is peer facilitation in which students learn how to help other students through modeling problem-solving and encouraging other students to be cooperative. Counselors collect data for evaluating the effectiveness of the school counseling program (Myrick, 1989).

The Missouri Comprehensive Guidance Program Model (Gysbers & Henderson, 2000) is another example of a developmental counseling program. This model contains four program components: guidance curriculum, individual planning, responsive services, and system support. The counseling curriculum includes competencies for all K-12 students. These competencies are knowledge of self and others, career planning and exploration, and educational development. Individual planning refers to activities that assist students to understand and monitor their growth, and make and act on plans for their education and careers after elementary and secondary school. School counselors also provide responsive services, such as helping students through individual, crisis, and small group counseling, consulting with parents and staff, and referring students for additional assistance. The last component, system support, is the management of the other three components, plus community outreach, public relations, and consultation to other programs (Gysbers, Hughey, Starr, & Lapan, 1992). This program model has been adopted and adapted for use in 24 states, and is being developed in an additional 10

states, with another 7 who are encouraging school districts to create developmental programs (Sink & MacDonald, 1998).

The goal of school counseling programs is the enhancement of student achievement with the counselor serving as a student advocate (Burnham & Jackson, 2000). Developmental guidance programs are not simply service delivery models. They de-emphasize administrative and clerical tasks, as well as crisis interventions, though these may still appear as part of a counselor's responsibilities. Development of students' personal, social, educational, and career skills are the focus of the program (Sink & MacDonald, 1998). Ascertaining the success of this goal, enhanced student achievement, requires evaluating the implementation of the comprehensive guidance program and its impact (Gysbers et al., 1992; Trevisan & Hubert, 2001).

For the last twenty years, school counseling was ignored as a means of improving student success in school. Dahir (2001) states:

Although relatively few areas of public education escaped the scrutiny of national attention, none of these widely distributed reports or more recent proposals for school reform suggested by various organizations (e.g., National Association of Secondary School Principals, 1996) mentioned school counseling as integral to improving student success in school. School counseling programs were ignored as a means to improve student achievement and help students prepare for the future. (p. 321)

The reports referred to by Dahir, in the quote above, are: *A Nation At Risk* (National Commission on Excellence in Education, 1983), *What Works: Research About Teaching and Learning* (U.S. Department of Education, 1987), *The Forgotten Half: Pathways to Success for America's Youth and Young Families* (William T. Grant Commission on Work, Family and Citizenship, 1988), and *What Work Requires of Schools: A SCANS Report for America 2000* (Secretary's Commission on Achieving Necessary Skills, 1991). Johnson (2000) suggests that the overarching mission of a comprehensive counseling program is the "facilitation of students

learning and development” (p. 33). School counseling staff have the challenge of establishing this connection. In order for counselors to document the impact of school counseling programs on students, counselors collect appropriate data for evaluating the program (Gysbers & Henderson, 2000).

Program Evaluation

Systemic evaluation ensures accountability of all components of a program and is part of continuous improvement (Trevisan & Hubert, 2001). The purpose of an evaluation is to determine the value, merit, or quality of the program being evaluated (Worthen, Sanders, & Fitzpatrick, 1997). An evaluation model developed by Stufflebeam (1985) uses feedback from the evaluation to effect change in the program for the purposes of decision-making, planning, and accountability (Stufflebeam, 2001; Worthen et al., 1997). Stufflebeam (1985) suggests that there are four types of educational decisions: Context evaluation, Input evaluation, Process evaluation, and Product evaluation. Context evaluation examines program goals and priorities and assesses the needs of the target population. Input evaluation considers the resources available and relevant strategies for implementing a program plan. Process evaluation is an ongoing assessment of implementation involving monitoring events and activities and leads to decisions about revision, if needed. Product evaluation provides feedback about the influences of the program and leads to decisions about the merit and worth of a program (Stufflebeam, 1985).

Carol Weiss (1998) addressed the multiple uses for information gleaned from program evaluations in an address at the American Evaluation Association. She noted that “use of evaluation” (p. 21) typically meant using the results of an evaluation for decision-making. This use of evaluation corresponds with the CIPP model. The results of an evaluation can be used in four ways. First, results can be used to make wiser decisions, as in the CIPP model. Secondly, evaluation can change how people think about a program and what it does. A third kind of use

is to persuade others of the importance of needed changes. Finally, the use of program evaluations can influence other organizations or events because the results add to the accumulation of knowledge in the field and therefore can contribute to shifts in thinking or action. This accumulation of knowledge may be synthesized through meta-analysis, providing summary of outcomes across similar programs (Weiss, 1998).

Earlier guidance studies (e.g., Aubrey, 1982; Borders & Drury, 1992; Crabbs, 1984; Gysbers et al., 1992; Lombana, 1985; Lusky & Hayes, 2001) proposed evaluation models and strategies that would help determine how well a guidance program was implemented and the impact on students or other clients (process and product evaluation from CIPP). Data gathered through the evaluation process provides feedback about the structure as well as the impact of the program (Gysbers et al., 1992; Worthen et al., 1997). Evaluating the school counseling program is an ongoing endeavor during which data are collected throughout implementation. The information gained from analysis of the data contributes to decisions about the modification and enhancement of the program. (Gysbers & Henderson, 2000). Several authors (Aubrey, 1982; Borders & Drury, 1992; Gysbers et al., 1992; Lombana, 1985; Worthen et al., 1997) suggest that multiple sources of data should be used to inform decisions about implementing the program and showing impact.

Meta-Analysis

One approach for showing impact of a program is meta-analysis. Meta-analysis provides a means for generalizing findings across populations, settings, and procedures (Cooper & Hedges, 1994). It is a methodology that summarizes quantitative studies thus making it possible to combine and compare research results (Rosenthal, 1991). Since 1976, when the term was introduced, meta-analytic review is being used increasingly (Cooper & Hedges, 1994). Meta-analysis offers a method of accounting for the magnitude of the treatment effect in studies. For example, the *p*-value cannot be used to determine the magnitude of a

treatment effect because statistically combining p -values will not indicate the actual size of the treatment effect on the subjects (Hunt, 1997). The effect size, “the magnitude of an effect or more generally the size of a relation between two variables” (Cooper & Hedges, 1994, p. 534), is the statistic that is reported for meta-analyses. Meta-analysis also offers a method of analyzing inconsistent results among studies. For example, if the variable being studied shows significant differences in some studies and no difference in other studies, a meta-analysis offers a statistical method of combining results across all studies. Results of a meta-analysis create a means of generalizing results across a variety of studies and thus summarizing, statistically, the impact (Cooper & Hedges, 1994).

The strengths of meta-analysis are illustrated in a study by Cooper and Rosenthal (1980), who published the results of an investigation of the effects in seven different studies. They used meta-analytic procedures compared to using a narrative summary. According to Cooper and Rosenthal (1980), the seven studies that were selected for analysis supported the hypothesis that females showed greater task persistence when compared with males. The participants of the study were graduate students and faculty. Seventy-three percent of the participants who used traditional review methods concluded that there was little or no support for the hypothesis of the study. Only 32 percent of the participants who used meta-analytic procedures came to the same conclusion. Cooper and Rosenthal concluded that traditional methods of reviewing research may lead to a greater incidence of type II errors, that is failing to reject the null hypothesis when it is false.

The use of meta-analysis to summarize outcomes aligns with an accumulation of knowledge contributing to a shift of thinking as defined by Weiss (1998) and with product evaluation in CIPP to decide the merit of a program. An issue raised by researchers of school counseling programs is how to determine effectiveness (Borders & Drury, 1992). One elementary school counseling program, Smoother Sailing, a model program for the United

States Department of Education, has been seeking ways to demonstrate the impact of the program.

Smoother Sailing Elementary School Counseling Program

The Smoother Sailing program, an elementary school counseling program serving children, kindergarten through fifth grade, in the Des Moines Independent Community School District, Des Moines, Iowa, provides a comprehensive, curriculum-based, developmental program. The Smoother Sailing program received federal funding through the United States Department of Education for dissemination of the program nation-wide. The program was recognized as the model for the Elementary Counseling Demonstration Grant (*Smoother Sailing*, 1999). Smoother Sailing is adapted from the Missouri Comprehensive Guidance Program (Gysbers & Henderson, 2000) and Myrick's (1989) model, consisting of a balanced structure that includes classroom developmental guidance activities, small group counseling, individual counseling, consulting with staff and parents, and coordinating counseling activities. School counselors are expected to divide their counseling time equally among the classroom, small group, and individual counseling functions. The focus of Smoother Sailing is on the emotional, psychological, physical, and academic needs of students. Counselors in the Des Moines Schools serve more than 15,000 students, with a student to counselor ratio of 350:1 (Kuhl, 1998). This ratio of 350:1 is lower than the national average of 561:1, but higher than the recommended ratio of 250:1 (American School Counselor Association, 1997).

The Smoother Sailing program is unique because it has a three-tiered balanced approach serving all students. The three tiers are: (a) counseling for individuals and small groups, as well as classroom guidance in the areas of personal/social, academic, and career needs; (b) consulting with parents, teachers, administrators, and community members in the implementation of the program; and (c) ongoing counselor training and program evaluation. Smoother Sailing counselors teach the program's curriculum, consisting of nine units, during

classroom guidance and small group sessions throughout the school year, at each grade level (Kuhl, 1998).

This program began in the 1988-89 school year in 10 Des Moines elementary schools, grades K-5, and expanded to all 41 elementary schools in the district during the 1991-92 school year. After the 1990-91 school year, an instructional support levy was approved by voters and funding became available to implement the Smoother Sailing program district-wide. From 1988-89 through the 1992-93 school year, the student to counselor ratio in Smoother Sailing program schools was 250:1, the ratio recommended by the American School Counselor Association (1997). After a series of budget cuts in the district, the ratio rose to 350:1 in 1993-94. Smoother Sailing was a pilot program from 1988-89 through 1990-91. During these pilot years, 10 elementary buildings were staffed with counselors at a ratio of 250:1, while 16 elementary schools had counselors with a student to counselor ratio of 850:1.

Measuring the effectiveness of the counseling program helps ensure that it benefits students, parents, teachers, administrators, and the general public (Gysbers et al., 1992). The Smoother Sailing program collected, over the years, a variety of evaluation data (Des Moines Guidance and Counseling Department, 1998). The program staff used evaluation data such as counselor activities, staff and parent perceptions, and the impact of the program on students, in the decision to expand the Smoother Sailing program to all elementary schools in the district and to help secure federal funding for dissemination of the program nation-wide (*Smoother Sailing*, 1999). Previous summaries of Smoother Sailing program results have been a synopsis of each study and its outcome.

Statistical results from various evaluation studies can be summarized through meta-analytic procedures to show change and impact across the years as the program was implemented. The application of meta-analytic procedures on process evaluation data, such as Smoother Sailing counselor activities, could reveal changes in program emphases during the first 12 years of implementation. Simultaneously, analysis of the product evaluation data,

derived from perceptions of parents, teachers, and administrators, could illustrate differences of opinion about elementary school counseling through the years. Analysis of other product data, such as changes in student knowledge of Smoother Sailing curriculum, student self-esteem, student behaviors in school and out of school, and student retention at grade level could result in recognition of the impact the Smoother Sailing program has had on students' lives.

Statement of the Problem

The Smoother Sailing program has produced evidence attesting to its effectiveness since its inception in 1988-89. The data encompass counseling activities, staff and parent perceptions, and impact on students. The program does not have a quantitative synthesis of the accumulated data, so a meta-analysis would allow a generalization of the findings across the years and document the effectiveness of the program. This dissertation is a series of papers to show the effectiveness of the Smoother Sailing program by looking at the consistency of the school counselor's role and proportion of time devoted to key components of a comprehensive developmental counseling program, comparison of perceptions of parents, teachers and administrators in Smoother Sailing and non-Smoother Sailing schools and as implementation of Smoother Sailing continues, and impact of the program on student knowledge of counseling curriculum, self-esteem, behavior in school and out of school, and student retention at grade level. The Smoother Sailing program is a model for the U.S. Department of Education's Elementary School Counseling Demonstration Grant. As such, showing effectiveness of the Smoother Sailing program, provides evidence about counseling programs modeled after Smoother Sailing.

Dissertation Organization

This dissertation is a series of papers. The first paper in the series, Chapter 2, "Elementary School Counselor Role: Consistency within a Comprehensive, Developmental,

Counseling Program,” considers the movement away from school counseling as a collection of services to a comprehensive, developmental program and what that change means for the role of the elementary school counselor. Evaluation of the counselor’s role is part of assessing program implementation or process evaluation as defined by Stufflebeam (1985). The role and functions of the elementary school counselor are reviewed within a comprehensive program including how time is allocated to various components of the program. The Smoother Sailing program has data about various aspects of the counselor role and function and how counselors allocated their time through the years. The meta-analysis concentrates on the consistency of the counselor’s role and functions as well as the proportion of time devoted to key components of the Smoother Sailing elementary counseling program. This first paper includes a reference list specific to the contents of the paper.

The next paper in the series, Chapter 3, “The Smoother Sailing Elementary Counseling Program: Assessing the Satisfaction of Parents, Teachers, and Building Principals,” begins with a review of purposes for program evaluation within elementary school counseling programs and a description of how perceptual and satisfaction data are part of the CIPP model in the product evaluation. Using a meta-analytic procedure, the perceptions of parents, teachers, and building principals between Smoother Sailing and Non Smoother Sailing schools in the early years are examined and perceptions among parents, teachers, and administrators as implementation of the program continues are compared. A reference list for Chapter 3 is included.

The final paper in the series, Chapter 4, “The Impact of an Elementary School Comprehensive Counseling Program on Student Self-Esteem, Behavior, Knowledge of Counseling Curriculum, and Retention at Grade Level,” emphasizes the need for gathering impact data. Measuring the effectiveness of the school counseling program has emerged as a critical need, and it is essential that counselors document their contribution to student learning (Gerler, 1992; Otwell & Mullis, 1997). The Smoother Sailing program has a variety of student

data that were collected over the years. Counselors assessed student knowledge of the school counseling curriculum in the areas of problem solving, personal safety, transitioning to middle school, school readiness skills, and violence prevention. Another area evaluated was student self-esteem. In addition, student behavior was monitored in the areas of office referrals and substance abuse. Finally, the number of students retained at grade level from one year to the next was monitored for all elementary school students. This paper documents the impact of the Smoother Sailing program on students. A reference list for Chapter 4 is included.

The fifth chapter summarizes the contents of the three papers, suggests implications for elementary school counseling programs, implications of meta-analyses in field evaluation research, and offers suggestions for future research. Following the final chapter, the appendices contain an outline of the Smoother Sailing curriculum, a letter of approval from the Institutional Review Board, a letter of support from the district, and the coding sheet for the data. Material included in the appendices will not be submitted to refereed journals as part of the papers.

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**CHAPTER 2. Elementary School Counselor Role: Consistency within a Comprehensive,
Developmental, Counseling Program**

A paper to be submitted to *Professional School Counseling*

Mariann H. Culver

Abstract

Counselors in the Smoother Sailing elementary school counseling program implement a comprehensive, developmental program. The Smoother Sailing program recommends that time the school counselor spends in the counseling role be divided equally into thirds among classroom guidance, small group counseling, and individual counseling including consulting with parents, teachers, or community members. Results from this meta-analysis, encompassing 12 years of data from the program, confirm a consistent counselor role in the areas of individual counseling, small group counseling, and classroom guidance, but the distribution of time was weighted toward individual counseling. Elementary school counselors should provide counseling to individuals and small groups as well as provide classroom guidance in alignment with the program model. School counselors should consider how the distribution of their time supports student learning.

The role and functions of school counselors have been defined through models based upon comprehensive, developmental, counseling programs (American School Counselor Association, 1997; Gysbers & Henderson, 2000; Sink & MacDonald, 1998). The American School Counselor Association (ASCA) issued position statements in the mid 1970s through the mid 1990s about establishing comprehensive and developmental guidance and counseling programs. These position statements recognized the need to create a school environment that promotes school success for students and the need to create comprehensive school counseling

programs that advance and enhance student learning (American School Counselor Association, 1997). In these models, the counselor's work became curriculum- and program-oriented and the counselor taught life skills, including academic, career, self-awareness, and interpersonal communication skills (American School Counselor Association, 1997; Sink & MacDonald, 1998). Counselors' interactions with students were not only crisis-centered, thus school counselors emphasized working with individuals and groups of students, promoting social and emotional development in all students as well as academic and vocational development (Gysbers & Henderson, 1997; Myrick, 1989; Sink & MacDonald, 1998). The counselor's role in a comprehensive program focused on direct service to students, parents, and staff. Balancing the many components of a program involved counseling students individually and in small and large groups, as well as teaching life skills, consulting with staff, and coordinating, managing, and evaluating the program (American School Counselor Association, 1997).

This paper will examine the role of the elementary school counselor within a comprehensive, developmental, guidance and counseling program. Analysis of time spent by school counselors on various activities enhances decision-making for the improvement of existing services (Fairchild & Seeley, 1994). Evaluation of the counselor's role is part of assessing program implementation or process evaluation, as defined by Stufflebeam (1985). One might anticipate that implementation of a program for more than a decade could result in a shifting of the school counselor role.

Comprehensive Developmental Counseling Programs

The current focus of school counseling programs is comprehensive, collaborative, and developmental. The program encourages healthy development for all students by focusing on three domains of student development—personal-social, educational, and career (Paisley, 2001). The National Standards for School Counseling Programs developed by the ASCA further address the comprehensiveness of school counseling programs by delineating a range of K-12

services including individual, small group, and classroom counseling activities; consultation with parents, educational staff, and outside agencies; and coordination of guidance-related school activities (Dahir, 2001; Paisley, 2001). The school counselor unites activities and interventions from the classroom guidance curriculum within the regular classroom curriculum and creates a multifaceted and integrated program within the school in collaboration with community agencies (Paisley, 2001).

Comprehensive, developmental guidance and counseling programs are not simply service delivery models. These programs are designed to be preventative and remedial. Counseling programs attempt to prevent future problems for students on issues such as substance abuse. School counselors provide remediation in areas such as study skills. They de-emphasize administrative and clerical tasks for counselors, though these may still appear as part of a counselor's responsibilities. Development of students' personal, social, educational, and career skills are the focus of the K-12 program (Paisley, 2001; Sink & MacDonald, 1998). Comprehensive school counseling programs focus on student competencies and systematic evaluation of the implementation of the program, and its impact is part of the framework (Gysbers, Hughey, Starr, & Lapan, 1992; Trevisan & Hubert, 2001).

Program Evaluation

Systemic evaluation ensures accountability of all components of school counseling programs and is part of continuous improvement (Trevisan & Hubert, 2001). The purpose of an evaluation is to determine the value, merit, or quality of the program being evaluated (Worthen, Sanders, & Fitzpatrick, 1997). One model of evaluation is CIPP (Stufflebeam, 1985). The CIPP model is a "decision-oriented evaluation approach" (Worthen et al., 1997, p. 98) that uses feedback to effect change systematically by considering relevant outcomes from the program, not just program objectives (Stufflebeam, 2001; Worthen et al., 1997). The CIPP model is based on four types of educational evaluation: Context evaluation, Intput evaluation, Process

evaluation, and Product evaluation. Context evaluation is for decisions about program goals and priorities. Input evaluation considers the resources available and relevant strategies for implementing a program plan. Process evaluation is an ongoing assessment of implementation involving monitoring and leads to decisions about revision, if needed. Product evaluation provides feedback about the effects of the program and leads to decisions about the merit and worth of a program (Stufflebeam, 1985). The four types of evaluation can be used for decision-making, planning, and accountability (Stufflebeam, 1985; Worthen et al., 1997). This evaluation model encourages program staff to use the evaluation results continuously to improve the program (Stufflebeam, 2001).

Carol Weiss (1998) addressed the multiple uses for information gleaned from program evaluations in an address at the American Evaluation Association. She noted that “use of evaluation” (p. 21) typically meant using the results of an evaluation for making wiser decisions. However, another use of evaluation can be to influence other organizations or events because the results add to the accumulation of knowledge in the field and therefore can contribute to shifts in thinking or action. This accumulation of knowledge may be synthesized through meta-analysis, providing summary of outcomes across similar programs (Weiss, 1998). Meta-analytic procedures provide a means for generalizing findings across populations, settings, and procedures (Cooper & Hedges, 1994). It is a methodology that summarizes quantitative studies, thus making it possible to combine and compare research results (Rosenthal, 1991). A meta-analysis of the distribution of school counselors’ time to their various roles would summarize the findings about consistency of the elementary school counselor’s role.

Elementary School Counseling Role and Time Allocated to Various Functions

The literature on the school counselor’s role contains many terms to describe the role of counselors. The American School Counselor Association (1997) defined the school counselor

role as having three functions: counseling, consulting, and coordinating in the areas of academic, career, and personal and social development. These three functions have been investigated repeatedly in the literature (Burnham & Jackson, 2000; Carroll, 1993; Carter, 1993; Fairchild & Seeley, 1994; Hardesty & Dillard, 1994; Morse & Russell, 1988; Partin, 1993).

The design of studies concerning school counselor role and the distribution of time often involve counselor perception of their role and distribution of their time compared to a model or ideal. The majority of studies in the school counseling literature are based on the perceptions of school counselors about the importance of their role or how school counselors spent their time (Burnham & Jackson, 2000; Carroll, 1993; Carter, 1993; Morse & Russell, 1988; Partin, 1993; Sink & Yillik-Downer, 2001). Time-series studies are recommended for accountability and decision-making because these studies document how counselors actually use their time (Fairchild, 1986; Fairchild & Seeley, 1994).

Some studies of counselor role and time distribution draw samples only from elementary school counselors (Carroll, 1993; Carter, 1993; Morse & Russell, 1988), while others include elementary school counselors as part of a sample of K-12 counselors (Burnham & Jackson, 2000; Gysbers, Lapan, & Blair, 1999; Hardesty & Dillard, 1994; Partin, 1993; Sink & Yillik-Downer, 2001) and may or may not disaggregate the data by elementary school counselors. For those studies that have reported elementary counselor results indicated that elementary school counselors use most of their time consulting with parents or other professionals and counseling individual students (Burnham & Jackson, 2000; Carter, 1993; Hardesty & Dillard, 1994; Morse & Russell, 1988). The consulting role includes working with other professionals and parents in understanding the needs of students and making referrals. Partin (1993) found that elementary school counselors reported the greatest percentage of their time was devoted to individual counseling, group counseling, guidance activities, and consultation and their perception of an ideal distribution of time was similar. Carroll (1993) also found that for two independent groups of elementary school counselors, their perception of the

importance of their actual role matched their importance rating of an ideal role (what they thought school counselors should be doing). The school counselors rated the importance of consulting, coordinating, and counseling functions. The two differences between the two groups of elementary counselors in Carroll's (1993) study were that working with parent groups and in-servicing teachers (a consulting role) were rated more important in the ideal role compared to the actual role. The explanation given is that elementary school counselors may not have time in their day or the necessary educational preparation to perform these functions.

The school counselor's role must be seen within the school system as integral to the academic mission of the school, thus supporting student learning and development. The guidance and counseling program must focus on integrated services for the school system with an overarching goal for students to become effective learners (Johnson, 2000). Gysbers and Henderson's (2000) comprehensive guidance and counseling program model incorporates individual, small group, and classroom counseling activities; consultation with parents, educational staff, and outside agencies; and coordination of guidance-related school activities. They recommend a balance of these functions for school counselors. The Smoother Sailing program has been implementing this model since 1988.

History of the Smoother Sailing Elementary School Counseling Program

The Smoother Sailing elementary school counseling program, serving children from kindergarten through fifth grade in the Des Moines Independent Community School District, in Des Moines, Iowa, provides a comprehensive, curriculum-based, developmental program. The Smoother Sailing program received federal funding through the United States Department of Education for dissemination of the program nation-wide. The program was recognized as the model for the Elementary Counseling Demonstration Grant (*Smoother Sailing*, 1999). Smoother Sailing is adapted from the Missouri Comprehensive Guidance Program (Gysbers & Henderson, 2000) and Myrick's (1989) model, consisting of a balance of developmental

guidance activities taught in classroom settings, small group counseling, individual counseling, consultation with staff and parents, and coordination of counseling activities. School counselors are expected to divide their counseling time equally among the classroom, small group, and individual counseling functions. The focus of Smoother Sailing is on the emotional, psychological, physical, and academic needs of students. The program serves more than 15,000 students, with a student to counselor ratio of 350:1, providing at least one counselor in every elementary school. The Smoother Sailing Program is unique because it has a three-tiered balanced approach serving all students. The three tiers are: (a) counseling for individuals and small groups as well as classroom guidance in the areas of personal/social, academic, and career needs; (b) consulting with parents, teachers, administrators, and community members in the implementation of the program; and (c) ongoing counselor training and program evaluation. Smoother Sailing counselors teach the program's curriculum, consisting of five areas, during classroom guidance and small group sessions throughout the school year, at each grade level (Kuhl, 1998).

This program began in the 1988-89 school year in 10 Des Moines elementary schools, grades K-5, and expanded to all 41 elementary schools in the district during the 1991-92 school year. After the 1990-91 school year, an instructional support levy was approved by voters and funding became available to implement the Smoother Sailing program district-wide. From 1988-89 through the 1992-93 school year, the student to counselor ratio in Smoother Sailing program schools was 250:1, the ratio recommended by the American School Counselor Association (1997). After a series of budget cuts in the district, the ratio rose to 350:1 in 1993-94. Smoother Sailing was a pilot program from 1988-89 through 1990-91. During these pilot years funding provided for 10 elementary buildings staffed with counselors at a ratio or 250:1 for the Smoother Sailing program, while 16 elementary schools had counselors with a student to counselor ratio of 850:1. These 16 elementary schools shared school counselors and were the control group for studies during those first three pilot years (Kuhl, 1998).

The Smoother Sailing program has quantitative data, beginning in 1988, for various aspects of the counselor role and how counselors allocated their time. The Smoother Sailing program does not have a quantitative synthesis of the accumulated data generalizing the findings across the years and confirming or denying the consistency of the elementary school counselors' role. The development of a comprehensive school counseling program, including planning, implementation, and evaluation, requires at least four years (Sink & MacDonald, 1998). The Smoother Sailing program has been implemented in 41 elementary schools since the 1991-92 school year. This meta-analysis concentrates on role of the elementary (K-5) school counselor and proportion of time devoted to key components of the Smoother Sailing elementary counseling program as the program changed from a pilot in 10 schools to a program implemented in 41 elementary schools.

“Demonstrating accountability through the measured effectiveness of the delivery of the guidance program and the performance of the guidance staff helps ensure that students, parents, teachers, administrators, and the general public will continue to benefit from quality comprehensive guidance programs” (Gysbers & Henderson, 2000, p. 284). Smoother Sailing program staff have collected, since 1988, a variety of evaluation data (Des Moines Guidance and Counseling Department, 1998). Previous summaries of Smoother Sailing program results have taken the form of a traditional review, a synopsis of each study, and its outcome. The application of meta-analytic procedures on process evaluation data, such as the Smoother Sailing counselor role, will examine whether program emphases changed during the first decade of implementation. The current school counselor literature does not include a meta-analytic review of counselor functions. A review of the Smoother Sailing program's counselor activity data since 1988 will allow comparison of the actual role of Smoother Sailing counselors to the model proposed by the program.

Method

One approach for demonstrating the impact of a program is meta-analysis. Meta-analysis is the statistical analysis of findings across populations, settings, and procedures for the purpose of synthesizing the results (Cooper & Hedges, 1994). It is a methodology that summarizes quantitative studies, thus allowing combining and comparing research results (Rosenthal, 1991). Meta-analysis offers a method of accounting for the magnitude of the treatment effect in studies. The effect size, “the magnitude of an effect or more generally the size of a relation between two variables” (Cooper & Hedges, 1994, p. 534), is the statistic of interest that is reported for meta-analyses. Results of a meta-analysis create a basis for generalizing results across studies, and thus for summarizing the impact statistically (Cooper & Hedges, 1994).

Database

The data used in this study were drawn from a variety of sources, including published reports from the Smoother Sailing program, archived data sets from studies of the program since its inception, and communications with various audiences. Published reports were those disseminated to the district Board of Education, community groups, and granting agencies. Memos to staff, letters to stakeholders, updates to the district Board of Education, and notes from meetings augmented the numeric data. Four program evaluation reports (Kuhl, 1998; Kuhl, Gordon, & Cowles, 1994; Schnelker, 1989; Wallace, 1990) provided some of the data included in this meta-analysis, while the remaining data were found in archived data sets. The Smoother Sailing program began in the 1988-89 school year as a pilot program, was implemented in all elementary schools the district in 1991-92, and has continued through 2002-03. All data related to counselor activities conducted from the program’s inception (1988-89) to 2001 were considered for inclusion in the meta-analysis.

The data that were retained had to meet the following criteria:

1. Data included activities of Smoother Sailing counselors.

2. Data included statistics permitting the calculation or estimation of effect sizes.
3. When possible, data were collected from a control group using an experimental or quasi-experimental design.

The final set of data that was retained included five different years in which counselor role and functions were logged.

Counselor roles and activities were logged in 1988-89, 1990, 1993-94, 1996-97, and 1999-00, and a brief description of each set of data follows. All five data sets used a different collection process and data collection from each year. The data collected in 1988-89 encompassed an entire school year and all elementary counselors recorded the number and type of contact made with students each week during the school year. In 1990, all counselors were assigned randomly three days each month to log their activities every 15 minutes according to 28 categories of activities. The 1990 data were collected during a calendar year, crossing two school years from January through December 1990. The data from 1990 that reported direct student contact were regrouped into three functions—individual counseling, small group counseling, and classroom guidance—to reduce the number of comparisons to three. These two sets of data, for 1988-89 and 1990, represent a comprehensive look at the various roles school counselors exhibit during the school day. The 1993-94 data were collected in the spring of the year; all elementary counselors reported the number of contacts they had each week for two consecutive weeks. These contacts were tallied as individual counseling, small group counseling, or classroom guidance. During 1996-97, all elementary counselors were assigned randomly to two days per month during the school year and logged each activity accomplished during the school day into five roles: individual counseling, small group counseling, classroom guidance, consulting, and coordination. The final data set was collected in the spring of 2000. Each counselor was asked to record one day's activities in a specified week. The data collection form organized the counselor's reporting into the same five roles as in 1996-97. To make use of the three sets of data since 1993-94, comparisons among these three sets of data were limited to the

counseling roles: individual counseling, small group counseling, and classroom guidance. The 1993-94 data would have had to be dropped from the study if the effect size analysis concentrated on five roles rather than three.

The data sets for 1988-89 and 1990 contained data from treatment and control groups. The treatment group for both sets of data were counselors in the 10 elementary schools with the Smoother Sailing program (student-to-counselor ratio, 250:1). The control group for both data sets were counselors in the 16 elementary schools with a student-to-counselor ratio of 850:1. The studies in these early years of the Smoother Sailing program investigated whether there were differences in the roles of counselors in Smoother Sailing schools and schools with a higher student-to-counselor ratio and who were not implementing the program. After the 1990-91 school year, the Smoother Sailing program was implemented in all elementary schools in the district and there was no control group for the studies of counselor role.

Meta-analysis

The data sets in 1988-89 and 1990 included 10 schools with the Smoother Sailing program (ratio of 250 students:1 counselor) and 16 schools in a control group (ratio of 850 students:1 counselor). The data sets in 1993-94, 1996-97, and 1999-2000 did not have control groups because counselors were implementing the Smoother Sailing program in all elementary schools. Therefore, within the five sets of data, two effect size calculations were used. Two data sets were analyzed using the standardized mean difference effect size and three data sets were analyzed using Cohen's *h*. Data collected during the pilot years of Smoother Sailing (1988-89 and 1990) included means and standard deviations for both treatment and control groups, and therefore the standardized mean difference effect size was used. This effect size formula computes the difference between the group means divided by the pooled standard deviation (Lipsey & Wilson, 2001). The later three sets of data, 1993-94, 1996-97, and 1999-2000, included proportions of time counselors devoted to three roles: counseling individuals, counseling small groups, and providing classroom guidance. Each of these data sets contributed

a single sample; therefore Cohen's h was used. Cohen's h is the difference between the observed proportion and an expected proportion. The actual and expected proportions are transformed within the formula because the raw differences do not account for variances of the parameter (Cooper & Hedges, 1994). The expected proportion of a counselor's time that is devoted to the role of counseling is divided equally, with one-third of counseling time spent with individuals, one-third with small groups, and one-third with classrooms (*Smoother Sailing*, 1999). The findings from these two research designs, treatment-control group and single sample, cannot be combined into a single effect size, but it is appropriate to draw conclusions across both meta-analyses since the data sets address the same construct, counselor activities (Lipsey & Wilson, 2001).

The unit of analysis for this study was each of the five sets of data. Each set of data contributed equally to the overall synthesis. To ensure each treatment-control comparison and each set of proportions contributed only one effect size, a weighted average effect size was calculated. Each effect size is weighted by the inverse of its variance (w_i) (Cooper, 1998; Cooper & Hedges, 1994; Lipsey & Wilson, 2001). If the effect sizes were simply averaged together and not weighted, then effect sizes with smaller sample sizes contribute equally to the average. These effect sizes with the smaller sample sizes may have greater sampling error. Since the sample sizes are based on the number of activity logs returned, studies of shorter duration had fewer logs. The effect sizes of these studies would be disproportionately represented in relation to studies of longer duration. Additional analyses assessed whether the effect sizes were homogenous (Q statistic, $p < .05$), the confidence interval around the average effect size estimate, and whether the weighted average effect sizes were greater than zero for $p < .05$. Insufficient data were available to estimate the effect of moderator variables, such as school building or length of employment as a counselor.

The information required to generate and analyze effect sizes was entered into a Microsoft Excel spreadsheet. The information included: codes to identify the source of the data,

year the data were collected, construct being measured, title and specific items on the data collection form, item scale (i.e. strongly disagree/agree), time of measurement, population description, sampling procedures and sample size, and means and standard deviations or proportion data of treatment and control groups on outcome measures. Raw effect sizes were calculated from the means and standard deviations using the Effect Size Determination Program (Wilson, 1996). Formulas for Cohen's h , w , Q , the confidence interval, and z were entered into Microsoft Excel (Cooper, 1998).

Results

Statistical significance of effect sizes

Effect size is represented in standard deviation units, and various authors interpret the magnitude of effect size differently. Cohen (1988) suggests that an effect size of 0.2 is small, 0.5 is medium, and 0.8 is large, but Wolf (1986) cites several other authors who have identified effect sizes of 0.25 and 0.5 as having practical significance. The median effect size for the distribution of standardized mean difference effect sizes published in psychological, behavioral, and education literature, was 0.5, and the bottom quartile was less than or equal to 0.3, while the top quartile was greater than or equal to 0.67 (Lipsey & Wilson, 2001). In general, an effect size of zero indicates that the treatment had no effect on the phenomenon, and the larger the effect size, the greater the degree to which the phenomenon under study is present in the population (Cooper, 1998; Lipsey & Wilson, 2001).

Table 1 shows the effect sizes associated with each set of data used in the study. All of the effect sizes would be considered small, and ranged from -0.07 to +0.15. The effect sizes for the 1988-89 and 1990 data were combined to produce, for the treatment-control group studies, the mean effect size of 0.01, as shown in Table 2. The effect sizes for the remaining three sets of data were combined to produce, for the proportion studies, the mean effect size of 0.01, as displayed in Table 2.

A confidence interval is a range of values that contains the mean of the population given the observed data, and is useful in showing the precision of the estimated effect size. The confidence interval indicates the range within the population mean effect size is expected to lie, given the observed data. If the confidence interval does not include zero, then the mean effect size is statistically significant (Lipsey & Wilson, 2001). The confidence intervals for both the treatment-control group data and the proportion data include zero, and therefore are not significant (see Table 2). The effect sizes were not significant between the Smoother Sailing counselors' allocation of time to individual counseling, small group counseling, and classroom guidance when compared to the control group counselors in 1988-89 and 1990. In addition, across the 1993-94, 1996-97, and 1999-00 data, the effect sizes were not significant.

Table 1. School Counselor Activity Effect Sizes, by Year

Year	Treatment-Control Group	Data Collection Method	Effect Size
1988-89	Yes	Weekly log	0.06
1990	Yes	Daily log	-0.07
1993-94	No	Weekly contacts	0.01
1996-97	No	Daily log	0.01
1999-00	No	Daily log	0.15

Table 2. Mean Effect Sizes for School Counselor Activities

Group	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Treatment-Control Group Data	2	0.01 ^a	-0.09	0.12	2.54	33.97
Proportion Data	3	0.01 ^b	-0.02	0.04	0.01	56.86 ***

^a Standardized mean difference (d) was computed.

^b Cohen's h was computed.

*** $p < .001$

Homogeneity of effect sizes

Determining the homogeneity of effect sizes answers the question of whether or not the effect sizes vary between and within sets of data. This statistical test assesses whether an individual effect size differs from the population mean by more than sampling error. The homogeneity statistic is the value of Q , and is based on a chi-square distribution with $j - 1$ degrees of freedom, where j is the number of effect sizes across the data sets. The between-groups statistic, Q_b , is calculated to test the hypothesis that the mean effect of the two groups in Table 2, treatment-control and proportion, differs by more than sampling error. The number of degrees of freedom for Q_b is $j - 1$. The within-groups statistic, Q_w , tests whether the variability within each year's data is due to sampling error. In contrast to Q_b , the number of degrees of freedom for Q_w is $k - j$, where k is the number of effect sizes within each data set (Cooper, 1998; Cooper & Hedges, 1994; Lipsey & Wilson, 2001).

Table 2 shows the values of Q_b and Q_w for each of the two groups, treatment-control and proportion data. Neither of the Q_b statistics exceeds the critical value for $p < .05$, indicating that the effect sizes are statistically equal between the two sets of data comprising the treatment-control group and among the three sets of data comprising the proportion. Even though the sets of data were collected across five nonconsecutive years using different data collection instruments and methods, none of these differences mattered in terms of the magnitude of the

effects found in them. While the $Q_w(6) = 56.86$ ($p < .001$) statistic is significant for the proportion data, the Q_w value is not statistically significant for the treatment-control group data.

This significant Q_w value for the proportion data indicates that the effects within each year's data vary by more than sampling error. The distribution within the data sets combined for the proportion group was heterogeneous, thus the variability differed among the three functions: counseling individuals, counseling small groups, and providing classroom guidance. This variability is significant for two of the three years of data, 1993-94 and 1996-97. Cohen's h , in this study, tests whether the proportions are distributed equally into thirds. The Smoother Sailing program model calls for a balance of counselor time for individual counseling, small group counseling, and classroom guidance. Approximately one-third of the counselor's time in the counseling role should be spent counseling individual students, one-third counseling small groups of students, and one-third providing classroom guidance. The individual effect sizes for each of the three roles are consistently less than 0.20 and exhibit a consistent pattern. The time spent counseling individual students has the largest positive effect (although less than .20) and the time spent in classroom guidance has a smaller effect size than individual counseling, but is consistently negative. This means that Smoother Sailing counselors spent greater than one-third of their time in individual counseling and less than one-third of their time in classroom guidance. The weighted mean effect size was not significant, but the variability of effect sizes within each year's data was sufficient for Q_w to be significant.

Discussion

This meta-analysis investigated five sets of data about counselor role that were collected between 1988-89, the first year of implementation of the Smoother Sailing program, and 2000, the twelfth year of the program. The mean effect sizes were small and not statistically significant, and the data were homogeneous between the data sets but heterogeneous within the proportion data. Although the effects were not significant, there was some variability within data

sets that cannot be explained by sampling error alone. The lack of effect between the treatment and control groups in the pilot years as well as the proportion data in the other years suggests consistent demonstration of the counselor role across time. The counselor's distribution of time was consistent between treatment-control groups and single sample data throughout the twelve years for which data were available. The Smoother Sailing program is based on Gysbers and Henderson's (2000) and Myrick's (1989) models, and has a 350:1 student-to-counselor ratio as well as a balanced structure for school counselors' time. The findings of this study suggest that from the time of implementation in 1988-89 through 1999-2000, the Smoother Sailing program was implemented consistently, with little variability from one year to the next.

Evaluating the consistency of the counselor's role is just one dimension of program evaluation: process evaluation. Process evaluation, as one component of CIPP, involves monitoring the implementation of a program and has historically been the focus of evaluation efforts (Gysbers & Henderson, 2000). The consistency of the school counselor role is important to assess another aspect of the program, its impact. Product evaluation, assessing the effectiveness of a program, is necessary to determine the merit or worth of a program (Stufflebeam, 1985).

The Smoother Sailing program model suggests an equal proportion of counseling time being devoted to the functions of individual counseling, small group counseling, and classroom guidance. There was an unequal, though consistent, distribution of time devoted to individual counseling, small group counseling, and classroom guidance. Consistently, across the years, counselors devoted more than one-third of their time to individual counseling and less than one-third of their time to classroom guidance. The Smoother Sailing program emphasizes the delivery of the curriculum through classroom guidance instruction. Gysbers et al. (1992) suggest that the guidance curriculum, delivered through structured groups and classroom presentation, should comprise 35% to 45% of a counselor's time if implementing the Missouri comprehensive Guidance Program Model. In addition, responsive services, which include individual counseling, small group counseling, consultation, and referrals, should comprise 30%

to 40% of a counselor's time. The total for these two program elements would consume 65% to 85% of a counselor's time. Smoother Sailing counselors, in the future, should devote slightly less time to individual counseling, so that one-third of school counselors' time spent counseling individual students includes the time spent consulting with parents, teachers, or community members. This distribution of counseling time is the model promoted within the current program (*Smoother Sailing*, 1999). This would redirect the counselor's time to roles that provide the potential for the greatest impact on the most students, classroom guidance and small group counseling, while still addressing the needs of individual students. Focusing less on individual services and more on an integrated program supports student competencies in personal-social, academic, and career domains (Johnson, 2000). The school counselor's role is often defined by standards of the profession and the school district within which the counselor works. How well the school counselor integrates that defined role with the school's beliefs and vision as well as their personal values impacts how the counselor works within the system, thus enhancing student learning through their actions (Littrell & Peterson, 2001). The Smoother Sailing program should consider how the current role definition and distribution of time supports student learning and make adjustments as necessary.

The Smoother Sailing program has placed an emphasis on collecting a variety of data to evaluate their program. Program evaluation is integral as evidenced by the recognition that the Smoother Sailing program is a model for the Elementary Counseling Demonstration Grant. Data about the counselor's role have been collected approximately every three years since the program was piloted in 1988-89. A dilemma is that the data were collected using different data collection instruments and methods each time. The variety of methods and scales did not allow direct comparison of the effects across all years. Two different effect size formulas, standardized mean difference effect size and Cohen's *h*, were used; this meant that all data could not be combined and therefore could not be compared directly. The Smoother Sailing

program should continue to collect counselor role data, but needs a consistent data collection instrument and the establishment of a consistent data collection process.

The Smoother Sailing elementary school counseling program received federal funding for dissemination of the program nation-wide because of its comprehensive and developmental program, ongoing counselor training, and program evaluation (*Smoother Sailing*, 1999). The Smoother Sailing program examined the elementary school counselor role and its functions from the early years of program implementation to 1999-00. This periodic review of school counselor role provides a model for elementary school counseling programs that are implementing comprehensive, developmental, counseling programs. The evaluation of counselor role—process evaluation—provides feedback about the implementation of the program, thus facilitating decisions about revision of the program, if needed. Comprehensive evaluation of a complex program, such as Smoother Sailing, requires data on the other dimensions of the program, too. Additional program evaluation is needed to determine if resources are focused appropriately to meet program goals and determine how effective the program is with students.

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CHAPTER 3. The Smoother Sailing Elementary Counseling Program: Assessing the Satisfaction of Parents, Teachers, and Building Principals

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Abstract

This meta-analysis examined the satisfaction of three groups, individually: parents, teachers, and building principals with Smoother Sailing, an elementary (K-5) comprehensive, developmental counseling program. The weighted average effect sizes ranged from 0.30 to 0.66, suggesting that each of these groups of stakeholders maintained a high level of satisfaction with the Smoother Sailing program. Narrative information supports these quantitative satisfaction data. There was some variability within the parent and building principal data. Data for one year for each group produced a negative effect size, suggesting less agreement with the statements in the survey for that year. Recommendations include continuing the Smoother Sailing program's evaluation plan and augmenting the satisfaction data with the perceptions of school counselors.

Gysbers and Henderson (2000) stated that to achieve accountability for school counseling programs, systematic evaluation is needed that examines whether the program is being implemented as intended and the impact the program is having on students and the school. Counselors need to be able to respond to questions that may arise from school staff, parents, and other stakeholders about program goals, resources, implementation, and impact (Stufflebeam, 1985). Program evaluation is vital to establishing and maintaining an effective school counseling program (Borders & Drury, 1992a; Hughey, Gysbers, & Starr, 1993). 'The goal of evaluation is to provide practitioners and decision makers at the local and state levels with sound data to improve school guidance programs to better serve all students, parents,

teachers, and the community” (Gysbers, Hughey, Starr, & Lapan, 1992, p. 570). Assessing the perceptions of those involved with the school counseling program, such as students, parents, and teachers, can contribute valuable feedback. The intent of this component of a program’s evaluation is to gauge the perceptions of those who are served by the school counseling program, either directly or indirectly. The satisfaction of various groups, including students, parents, teachers, administrators, and community members, is one type of perceptual data that assesses the counseling program from the perspective of those being served by it (Borders & Drury, 1992a; Gysbers et al., 1992; Hughey et al., 1993).

This paper will examine the satisfaction of parents, teachers, and building principals with an elementary (K-5) comprehensive, developmental guidance and counseling program. The evaluation of satisfaction is part of assessing program results or product evaluation, as defined by Stufflebeam (1985). The perceptions of parents, teachers, and administrators can provide valuable feedback to use to improve the school counseling program (Gysbers & Henderson, 2000; Stufflebeam, 2001).

Program Evaluation

Systemic evaluation ensures accountability of all components of school counseling programs and is part of continuous improvement (Trevisan & Hubert, 2001). The purpose of an evaluation is to determine the value, merit, or quality of the program being evaluated (Worthen, Sanders, & Fitzpatrick, 1997). An evaluation model developed by Stufflebeam (1985), uses feedback from the evaluation to effect change in the program for the purposes of decision-making, planning, and accountability (Stufflebeam, 2001; Worthen et al., 1997). The CIPP model is based on four types of educational evaluation: Context evaluation, Input evaluation, Process evaluation, and Product evaluation. Context evaluation examines program goals and priorities and assesses the needs of the target population. Input evaluation considers the resources available and relevant strategies for implementing a program plan. Process evaluation

is an ongoing assessment of implementation involving monitoring events and activities and leads to decisions about revision, if needed. Product evaluation provides feedback about the influences of the program and leads to decisions about the merit and worth of a program (Stufflebeam, 1985). Program staff use the evaluation results continuously to improve the program (Stufflebeam, 2001).

The information from program evaluations can be used for multiple purposes (Weiss, 1998). She noted that “use of evaluation” (p. 21) typically meant using the results of an evaluation for making wiser decisions. However, another use of evaluation can be to influence other organizations or events because the results add to the accumulation of knowledge in the field and therefore can contribute to shifts in thinking or action. This accumulation of knowledge may be synthesized through meta-analysis, providing a summary of outcomes across similar programs (Weiss, 1998). Meta-analytic procedures provide a means for generalizing findings across populations, settings, and procedures (Cooper & Hedges, 1994). It is a methodology that summarizes quantitative studies, thus making it possible to combine and compare research results (Rosenthal, 1991). A meta-analysis of the results from satisfaction surveys from parents, teachers, and building principals would provide evidence to support generalizations about the satisfaction of various groups with an elementary (K-5) school counseling program.

Satisfaction of Parents, Teachers, and Building Principals

Several authors note the importance of perceptual data when evaluating a program's implementation or its results (Borders & Drury, 1992a; Fairchild, 1994; Gysbers et al., 1992; Hughey et al., 1993; Schmidt, 1995; Scruggs, Wasielewski, & Ash, 1999). A review of the literature on perceptions of school counseling programs indicates that few studies assess satisfaction, although other perceptions may be targeted, such as awareness of the school counseling program. It is important to focus questionnaires for students, parents, and school

staff so that program components appropriate for each group are surveyed (Borders & Drury, 1992b; Gysbers et al., 1992).

The following sampling of the literature on perceptions of school counseling programs shows the diversity among studies. Hughey et al. (1993) surveyed teachers who were familiar with the high school guidance program, parents who had been involved with the program, and high school students. Teachers evaluated the scope of the counseling program offered at their school and teachers reported that the school counselor was helping students plan personal, educational, and career goals. Parents were asked to indicate the reason they spoke with the high school counselor. Parents talked with the school counselor about post secondary school options and financial aid, high school course planning, test result interpretation, their child's relationships with teachers, and personal, social, or emotional concerns. Students reported a variety of ways that they participated in the school counseling program, such as individual sessions, classroom presentations, and small groups. These questions addressed perceptions about the implementation of the school counseling program. Three studies assessed satisfaction through surveys: Fairchild (1994), Schmidt (1995), and Scruggs et al. (1999). Elementary students, secondary students, parents, district teachers, counselors, and school administrators were surveyed about their awareness of a district counseling program and adequacy of that program. The results indicated satisfaction with the counseling program, but a desire for additional information about the components of the counseling program (Scruggs et al., 1999). In a small rural district, all elementary students, grades one through six, and all teachers were surveyed about their satisfaction with the counseling program. Though the students knew who the counselor was and what the counselor did, only two-thirds of the students needing help would have talked to the counselor and knew how to obtain assistance from the school counselor. Students thought classroom activities were enjoyable and liked talking with the counselor. Teacher satisfaction increased from 1990-91 to 1991-92 due to changes made in the school counseling program based upon feedback from teachers (Fairchild, 1994). Schmidt

(1995) surveyed all teachers in two school systems, a sample of students in grades four through twelve, and a sample of parents about their perceptions of the services provided by school counselors and how well student needs were being met. Results varied across the grade levels and school systems, but the high school program received less favorable responses.

Stufflebeam (1985) indicates that judgments by others fit within the CIPP model as product evaluation because results from surveys suggest whether to continue, modify, or extend a program. The questions that are generated for the survey are derived from the need to collect judgments from stakeholders such as parents, students, school staff, and community members about their perception of the impact of the program. The Smoother Sailing elementary school counseling program has been gathering perceptions about the program from parents, teachers, and building principals since 1988.

History of the Smoother Sailing Elementary School Counseling Program

The Smoother Sailing elementary school counseling program serving children from kindergarten through fifth grade in the Des Moines Independent Community School District, in Des Moines, Iowa, provides a comprehensive, curriculum-based, developmental program. The Smoother Sailing program received federal funding through the United States Department of Education for dissemination of the program nation-wide. The program was recognized as the model for the Elementary Counseling Demonstration Grant (*Smoother Sailing*, 1999).

Smoother Sailing is adapted from the Missouri Comprehensive Guidance Program (Gysbers & Henderson, 2000) and Myrick's (1989) model, consisting of a balanced structure that includes classroom developmental guidance activities, small group counseling, individual counseling, consulting with staff and parents, and coordinating counseling activities. School counselors are expected to divide their counseling time equally among the classroom, small group, and individual counseling functions. The focus of Smoother Sailing is on the emotional, psychological, physical, and academic needs of students. The program serves more than 15,000

students, with a student-to-counselor ratio of 350:1, providing at least one counselor in every elementary school (Kuhl, 1998). The Smoother Sailing program is unique because it has a three-tiered balanced approach serving all students. The three tiers are: (a) counseling for individuals and small groups, as well as classroom guidance in the areas of personal/social, academic, and career needs; (b) consulting with parents, teachers, administrators, and community members in the implementation of the program; and (c) ongoing counselor training and program evaluation. Smoother Sailing counselors teach the program's curriculum, consisting of five areas, during classroom guidance and small group sessions throughout the school year, at each grade level (Kuhl, 1998).

This program began in the 1988-89 school year in 10 Des Moines elementary schools, grades K-5, and expanded to all 41 elementary schools in the district during the 1991-92 school year. After the 1990-91 school year, an instructional support levy was approved by voters and funding became available to implement the Smoother Sailing program district-wide. From 1988-89 through the 1992-93 school year, the student to counselor ratio in Smoother Sailing program schools was 250:1, the ratio recommended by the American School Counselor Association (1997). After a series of budget cuts in the district, the ratio rose to 350:1 in 1993-94. Smoother Sailing was a pilot program from 1988-89 through 1990-91. During these pilot years, 10 elementary buildings were staffed with counselors at a ratio of 250:1, while 16 elementary schools had counselors with a student to counselor ratio of 850:1. These 16 elementary schools shared school counselors and became the control group for studies during those first three years (Kuhl, 1998).

Since its inception, the Smoother Sailing program has had an evaluation plan that encompassed all four types of educational evaluation in the CIPP model (Stufflebeam, 1985). The plan provided for evaluating each of the types—context, input, process, and product—approximately every four years. Smoother Sailing program staff have collected quantitative data, beginning in 1988, about the satisfaction of parents, teachers, and building

principals. The Smoother Sailing program does not have a quantitative synthesis of the accumulated data, so a meta-analysis would provide for a generalization of the findings across the years and confirm or deny the consistency of the satisfaction of these three groups. The development of a comprehensive school counseling program, including planning, implementation, and evaluation, requires at least four years (Sink & MacDonald, 1998). The Smoother Sailing program has been implemented in 41 elementary schools since the 1991-92 school year. This meta-analysis concentrates on the perceptions of parents, teachers, and building principals, to assess trends in those perceptions as the program changed from a pilot in 10 schools to a program implemented in 41 elementary schools.

The Smoother Sailing program staff have collected, since 1988, a variety of evaluation data (Des Moines Guidance and Counseling Department, 1998). Previous summaries of Smoother Sailing program results have taken the form of a traditional review, with a synopsis of each study and its outcome. This meta-analysis of satisfaction data will examine whether the level of satisfaction of various groups changed during the first decade of implementation of the program. The current school counselor literature does not include a meta-analytic review of stakeholders' perceptions of satisfaction with school counseling programs. A review of the Smoother Sailing program's satisfaction data will allow comparison of initial reactions to the program in 1988 to later years.

One approach for demonstrating the impact of a program is meta-analysis. Meta-analysis provides for the generalization of findings across populations, settings, and procedures (Cooper & Hedges, 1994). It is a methodology that summarizes quantitative studies, thus making it possible to combine and compare research results (Rosenthal, 1991). Meta-analysis offers a method of accounting for the magnitude of the treatment effect in studies. The effect size, "the magnitude of an effect or more generally the size of a relation between two variables" (Cooper & Hedges, 1994, p. 534), is the statistic of interest that is reported for meta-analyses.

Results of a meta-analysis create a basis for generalizing results across a variety of studies, and thus for summarizing the impact statistically (Cooper & Hedges, 1994).

Method

Database

The data used in this study were drawn from a variety of sources, including published reports from the Smoother Sailing program, archived data sets from studies of the program since its inception, and communications with various audiences. Published reports were those disseminated to the district Board of Education, community groups, and granting agencies. Memos to staff, letters to stakeholders, and notes from meetings augmented the numeric data. Four program evaluation reports (Kuhl, 1998; Kuhl, Gordon, & Cowles, 1994; Schnelker, 1989; Wallace, 1990) provided some of the data included in this meta-analysis, while the remaining data were found in archived data sets. The Smoother Sailing program began in the 1988-89 school year as a pilot program, was implemented in 41 elementary schools in 1991-92, and has continued through 2002-03. All perceptual data related to satisfaction of parents, teachers, and building principals from the program's inception (1988-89) to 2001 were considered for inclusion in the meta-analysis.

The data that were retained had to meet the following criteria:

- 1. Data included perceptions of satisfaction of parents, teachers, or building principals with the Smoother Sailing program.**
- 2. Data included statistics permitting the calculation or estimation of effect sizes.**
- 3. When possible, data were collected from a control group using an experimental or quasi-experimental design.**

The final sets of data that met the criteria above and were used in the analyses included satisfaction data from seven different years.

The satisfaction of parents with the Smoother Sailing program was assessed in spring 1990, spring 1995, fall 1997, and spring 2000. Teacher satisfaction data were gathered in spring 1989 and spring 1995. Data on the satisfaction of building principals were collected in spring 1989, and during the years of 1991-92 and 1993-94. A brief description of each set of data follows.

Parents of students who attended elementary schools with counselors responded to a satisfaction survey four times between spring 1990 and spring 2000. Though in 1990, the parent survey was sent to Smoother Sailing elementary schools (student-to-counselor ratio 250:1) and elementary schools with a student-to-counselor ratio of 850:1, thus creating the potential for a treatment-control group design, the results were aggregated and reported as a single group. All surveys used a response set of *yes*, *no*, and *unsure*. There was one item on the spring 2000 survey that used a Likert-type scale for a follow-up question: "If yes, how satisfied were you with the results of this discussion." The scale for this item was a continuum from 5 (*very satisfied*) to 1 (*very dissatisfied*). In spring 1990, a 4-item survey was reported. In spring 1995, an 8-item survey was administered. However, for this meta-analysis, one of the spring 1995 items was deleted from the analysis because it did not assess satisfaction. The deleted item asked if parents wanted more information. In fall 1997, a 4-item survey was reported. The spring 2000 survey had six items. The sampling procedures were not reported consistently for these four surveys. In spring 1990, the parents of randomly selected classrooms of students, kindergarten through fifth grade, were sent the survey. There were 878 surveys sent and 272 surveys returned, for a return rate of 31.0%. In spring 1995, 200 parents were selected randomly to receive a survey. Thirty-seven parents returned surveys, for an 18.5% return rate. It was noted by the administrative counseling staff that the return rate in 1995 was low, and it was decided that the survey would be administered again with additional attention to procedures for securing a higher return rate. The data reported subsequently were collected in the fall of 1997. The 1997 survey was sent home with 258 second, third, fourth, and fifth grade students from three

elementary schools. Parents were provided an envelope to mail the survey to the district administrative office. There were 156 surveys returned for a 60.5% return rate. In spring 2000, parents completed a 6-item satisfaction survey given to them during student conferences at their child's school. As parents entered the school building for their student's conference, they were given a satisfaction survey. Boxes were placed near the exits of the building for parents to drop in their completed survey. There were 1,095 surveys returned that spring.

Teachers responded to items about their perception of the impact of the counseling program in their school and their satisfaction with it, in spring 1989 and spring 1995. In spring 1989, the 11-item survey used a 5-point Likert-scale on a continuum of 1 (*strongly agree*) to 5 (*strongly disagree*). In spring 1995, the items focused on teacher satisfaction with the Smoother Sailing program, and the scale shifted to a response set of *yes*, *no*, and *unsure*. The 12 items on the surveys for both these years were very similar, with minor word changes from the first administration to the second. The sampling procedures varied with each administration of the surveys. In the spring of 1989, six teachers were selected randomly from each of the schools with counselors: 10 Smoother Sailing schools and 16 schools with an 850:1 student to counselor ratio served as a control group. The return rate was 90.0% for the Smoother Sailing program schools and 89.6% for the control group. There were 202 teachers who completed the spring 1995 survey. The sampling procedures were not reported for that survey.

In spring 1989, elementary building principals provided feedback similar to the teachers that same year, but with an additional six items, for a total of 17 items. The survey in 1991-92 included a subset of the items from 1989, reducing the number of items to 12, and in 1993-94 all 17 items were restored to the survey. In 1993-94, the scale was reversed so that item responses ranged from 5 (*strongly agree*) to 1 (*strongly disagree*). For the purposes of this research, the average scores for the first two years were converted back to the scale used in 1993-94 so the scores could be compared among the three data sets. As with the teacher survey, the sampling procedures varied. In 1989, all elementary principals who had counselors in their

schools, including 10 Smoother Sailing program schools and 16 schools that served as a control group, completed the survey. In 1991-92, the first year the program was implemented in all elementary schools in the district, 20 surveys were sent to randomly selected principals, and 18 were returned, for a 90.0% return rate. All building principals were sent a survey in 1993-94, but the number of respondents was not reported, so an estimate was made based on previous years' return rates for surveys from principals. Given that the past two data sets showed a return rate of 90%, it was estimated that 90% of 41 principals in 1993-94 would respond to the survey; therefore the number of respondents was estimated at 37 for these analyses.

Meta-analysis

The available data reported for the Smoother Sailing program were missing some relevant figures needed for the computation of an effect size. Two effect size formulas were used so the available data could be included in this research. The design of the study in 1988-89 included 10 schools with the Smoother Sailing program (ratio of 250 students:1 counselor) and 16 schools in a control group (ratio of 850 students:1 counselor). The data sets from 1991-92 and beyond did not have control groups because counselors were implementing the Smoother Sailing program in all elementary schools. Therefore, the nine sets of data retained for this meta-analysis were analyzed using two effect size calculations: the standardized mean difference and Cohen's h . Satisfaction data from parents, teachers, and building principals collected during the initial pilot year of Smoother Sailing (1988-89) included means and t values for both treatment and control groups, and therefore an algebraically equivalent form of the standardized mean difference effect size formula was used. The standardized mean difference effect size formula computes the difference between the group means divided by the pooled standard deviation and an algebraically equivalent form of the equation uses the t value and the mean (Lipsey & Wilson, 2001). The remaining sets of data for all groups were analyzed in a variety of ways based upon the data available.

All four years of parent satisfaction data were reported as proportions of parents who responded favorably to the items on the survey. Cohen's h was used with these proportional data. Cohen's h is the difference between the observed proportion and an expected proportion. The actual and expected proportions are transformed within the formula because the raw differences do not account for variances of the satisfaction data (Cooper & Hedges, 1994). An expected proportion of positive responses from parents had to be determined to complete the equation for Cohen's h . A review of the literature on parent satisfaction with school counseling programs provided evidence of the percentage of parents who are satisfied with school counseling programs. Two studies were found that reported the percentage of satisfied parents: Fairchild (1994) and Schmidt (1995). A proportion based on the data provided by Schmidt (1995), .639, was used in the Cohen's h equation because that reported proportion was the highest proportion of positive responses between the studies.

A t value had to be estimated for four items from the teacher survey in 1989 to calculate the standardized mean difference effect size. The reported data included means, number of respondents, and, when statistically significant, a t value. For items on the survey that did not have statistically significant t values, a t value was estimated so the standardized mean difference effect size could be computed. The median standard error was determined from the data available in the remaining seven items and was used to estimate a t value in the four items that did not have one. The mean score of the treatment group was subtracted from the mean score of the control group and then divided by the t value to produce a standard error for each of the seven items. The median standard error was determined from these seven and then that median standard error was used to calculate an estimated t value for the four items for which the t value was missing. This method did not produce a t value for the four items that was greater than the statistically significant t values for the remaining seven items, and therefore would not overestimate the effect size.

The later set of data from the teachers, for 1995, reported the proportion of teachers who responded yes to each item; Cohen's h was used. An expected proportion of positive responses was determined. Three studies were found that assessed teacher satisfaction with school counseling programs (Fairchild, 1994; Schmidt, 1995; Scruggs et al., 1999). The highest proportion of positive responses by teachers was .809, the average proportion of positive responses for an 11-item survey from Fairchild's (1994) research.

Reports of results from the principal surveys in 1991-92 and 1993-94 provided the mean response to each item. There were no standard deviations or distributions of respondents for each value on the scale. To calculate an effect size for each of those two years, a mean response was computed for all items on each survey. The mean responses for each item were averaged, and a standard deviation and standard error were computed across all items in a given year. The original treatment data from spring 1989 were reconfigured in a similar manner so that each year's data, for 1989, 1991-92, and 1993-94, produced a single mean score, standard deviation, and standard error. These were used in the standardized mean difference effect size formula. The 1991-92 and 1993-94 data were considered treatment data for the purposes of computing an effect size and were compared to the spring 1989 data, which are the control data. Thus, the set of responses from Smoother Sailing principals in the spring of 1989 became the comparison group for the 1991-92 and 1993-94 data. This provided a conservative estimate of effect sizes because the spring 1989 data were very positive.

The unit of analysis for this study was each of the nine sets of data. Each set of data contributed equally to the overall synthesis. To ensure that each treatment-control comparison and each set of proportions contributed only one effect size, a weighted average effect size was calculated. Each effect size is weighted by the inverse of its variance (w_i) (Cooper, 1998; Cooper & Hedges, 1994; Lipsey & Wilson, 2001). If the effect sizes were simply averaged together and not weighted, then effect sizes with smaller sample sizes contribute equally to the average. These effect sizes with the smaller sample sizes may have greater sampling error and

these studies would be disproportionately represented in relation to studies with larger sample sizes. Additional analyses assessed whether the effect sizes were homogenous (Q statistic, $p < .05$), the confidence interval around the average effect size estimate, and whether the weighted average effect sizes were greater than zero for $p < .05$. Insufficient data were available to estimate the effect of moderator variables.

The information required to generate and analyze effect sizes was entered into a Microsoft Excel spreadsheet. The information included: codes to identify the source of the data, year the data were collected, construct being measured, title and specific items on the data collection form, item scale (i.e. strongly disagree/agree), time of measurement, population description, sampling procedures and sample size, and means and standard deviations or proportion data of treatment and control groups on outcome measures. Raw effect sizes were calculated from the means, standard deviations, and t -values, using the Effect Size Determination Program (Wilson, 1996). Formulas for w , Q , the confidence interval, and z were entered into Microsoft Excel (Cooper, 1998).

Results

Statistical significance of effect sizes

Effect size is represented in standard deviation units, and various authors interpret the magnitude of effect size differently. Cohen (1988) suggests that an effect size of 0.2 is small, 0.5 is medium, and 0.8 is large, but Wolf (1986) cites several other authors who have identified effect sizes of 0.25 and 0.5 as having practical significance. The median effect size for the distribution of standardized mean difference effect sizes published in psychological, behavioral, and education literature, was 0.5, and the bottom quartile was less than or equal to 0.3, while the top quartile was greater than or equal to 0.67 (Lipsey & Wilson, 2001). In general, an effect size of zero indicates that the treatment had no effect on the phenomenon, and the larger the

effect size, the greater the degree to which the phenomenon under study is present in the population (Cooper, 1998; Lipsey & Wilson, 2001).

Tables 1 through 3 show the effect sizes associated with each set of data for parents, teachers, and building principals. The effect sizes range from -2.29 for the 1991-92 building principal satisfaction data to +0.88 for the spring 1989 building principal data. Many of the effect sizes would be considered of medium size, approximately 0.5, and a couple of large size, 0.8 or larger. Effect sizes were combined within each group of parents, teachers, and building principals according to the effect size formula used, either the standardized mean difference effect size or Cohen's *h*. These combined effect sizes are shown in Tables 4 through 6 for each group separately.

Table 1. Parent Satisfaction Effect Sizes, by Year

Year	Treatment-Control Group	Data Collection Method	Effect Size
Spring 1990	No	Survey	0.55
Spring 1995	No	Survey	-0.14
Fall 1997	No	Survey	0.59
Spring 2000	No	Survey	0.30

Table 2. Teacher Satisfaction Effect Sizes, by Year

Year	Treatment-Control Group	Data Collection Method	Effect Size
Spring 1989	Yes	Survey	0.49
Spring 1995	No	Survey	0.45

Table 3. Building Principal Satisfaction Effect Sizes, by Year

Year	Treatment-Control Group	Data Collection Method	Effect Size
Spring 1989	Yes	Survey	0.88
1991-92	Yes	Survey	-2.29
1993-94	Yes	Survey	-0.59

The confidence interval is a range of values that contains the mean of the population given the observed data, and is useful in showing the precision of the estimated effect size. The confidence interval indicates the range within the population mean effect size is expected to lie, given the observed data. If the confidence interval does not include zero, then the mean effect size is statistically significant (Lipsey & Wilson, 2001). The confidence intervals for all mean effect sizes do not include zero, and therefore are statistically significant. A z score was computed for each significant effect size and the level of significance is noted (see Tables 4, 5, and 6).

Homogeneity of effect sizes

Determining the homogeneity of effect sizes answers the question of whether or not the effect sizes vary between and within sets of data. This statistical test assesses whether an individual effect size differs from the population mean by more than sampling error. The homogeneity statistic is the value of Q , and is based on a chi-square distribution with $j - 1$ degrees of freedom, where j is the number of effect sizes. The between-groups statistic, Q_b , is calculated to test the hypothesis that the mean effect between or among the data sets differs by more than sampling error. The number of degrees of freedom for Q_b is also $j - 1$. The within-groups statistic, Q_w , tests whether the variability within each year's data is due to sampling error. In contrast to Q_b , the number of degrees of freedom for Q_w is $k - j$, where k is the number of effect sizes within each year's data (Cooper, 1998; Cooper & Hedges, 1994; Lipsey &

Wilson, 2001). In the case of the teacher satisfaction data, values of Q_w and Q_b are not computed for the treatment-control group data or the proportion data because there was only one set of data for each analysis, and thus no variation.

Tables 4 through 6 show the values of Q_b and Q_w for each group of data. The $Q_b(3) = 20.58$ ($p < .001$) is statistically significant for the parent satisfaction data, indicating that the variability across effect sizes for the four different years surveyed is greater than expected from sampling error alone (see Table 4). The effect sizes for each of the four sets of data; 1990, 1995, 1997, and 2000; show a range of effect sizes from -0.14 in 1995 to 0.59 in 1997. The proportion of yes responses in 1995 was not as large as in other years. The return rate for the survey was the smallest in 1995, too. The $Q_w(18) = 53.28$ ($p < .001$) statistic is significant for the parent proportion data, indicating that sampling error alone does not account for the variability within each year's data. The distribution within the data sets was heterogeneous; thus the variability differed among the items within each survey. Cohen's h , in this study, tests whether the proportions are equal to $.693$ (Schmidt, 1995). There were items within each Smoother Sailing survey for which parents did not respond as positively (less than 69.3% of parents responding yes) while other items received a highly positive response (greater than 69.3% of parents responding yes). Responses by parents were not consistently highly positive for all items of the surveys each year.

The $Q_b(2) = 44.88$ ($p < .001$) statistic is significant for the building principal treatment-control group data, indicating that the variability across effect sizes for the three different years is greater than expected from sampling error alone (see Table 6). The variability of effect sizes among the three years is apparent in Table 3. The first year of implementation in 41 elementary schools, 1990-91, showed a large, negative effect size. Review of the average response for all items by building principals in 1990-91 revealed that elementary principals that year responded slightly less positively to the survey items than the first year of the pilot, when the program was implemented in 10 elementary schools. The average response for all items of the surveys for

each year—1988-89, 1990-91, and 1993-94—was 4.57, 4.09, and 4.37, respectively. The average response for all items did not fall below 4.0, *agree*, on the continuum.

Table 4. Mean Effect Sizes for Parent Satisfaction Data

Group	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Proportion Data ^a	4	0.30 ***	0.27	0.33	20.58 ***	53.28 ***

^a Cohen's h was computed.

*** $p < .001$

Table 5. Mean Effect Sizes for Teacher Satisfaction Data

Group	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Treatment-Control Group Data ^a	1	0.49 ***	0.38	0.59	Not applicable	Not applicable
Proportion Data ^b	1	0.46 ***	0.28	0.64	Not applicable	Not applicable

^a Standardized mean difference (d) was computed.

^b Cohen's h was computed.

*** $p < .001$

Table 6. Mean Effect Sizes for Building Principal Satisfaction Data

Group	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Treatment-Control Group Data ^a	3	0.66 ***	0.47	0.85	44.85 ***	6.73

^a Standardized mean difference (d) was computed.

*** $p < .001$

Discussion

This meta-analysis examined nine sets of data from seven different years of parent, teacher, and building principal satisfaction with the Smoother Sailing elementary school counseling program. The mean effect sizes were statistically significant for all groups. The statistically significant effect sizes for all groups suggest that satisfaction reported by the Smoother Sailing program from 1988-89, the first year of implementation, to 2000, the twelfth year of the program, was consistently positive. There was variability among the parent data sets and among the building principal data sets that cannot be explained by sampling error alone. In 1995, the return rate was unsatisfactory to the program staff and a smaller percentage of parents responded positively to each item. In 1990-91, the first year that the Smoother Sailing program expanded to all elementary schools in the district, the building principals did not respond as positively to the survey. Though the 1990-91 results were not as positive, the average response for all items by elementary principals did not fall below 4.0, *agree*, on the continuum. With the exception of the one year, 1995, when the return rate for the parent survey was unsatisfactory and the results of the survey were less positive, the overall reaction by parents, teachers, and building principals was positive.

The Smoother Sailing program established a data collection schedule that included monitoring the satisfaction of parents, teachers, and building administrators every few years. This schedule showed the data that would be collected in each of the areas of the CIPP model (Stufflebeam, 1985), from a variety of sources, balancing the type of data collected each year (Des Moines Guidance and Counseling Department, 1998). The program's evaluation reports were written approximately every four years. Those reports included the results of the satisfaction surveys. Borders and Drury (1992a) suggest that an evaluation plan should be established that collects data from a variety of sources, such as students, parents, teachers, administrators, and community members, and should be aligned with the purposes of evaluation. Whiston and Sexton (1998) comment that a weakness of school counseling research

between 1988 and 1995 is the sampling procedures used by the researchers. Of the 50 studies, reviewed by Whiston and Sexton (1998), almost two-thirds used convenience samples. For the Smoother Sailing program, the sampling procedures were not reported for some of the survey data. It is important that representative samples be drawn, using appropriate sampling techniques, and then reporting the procedures used so the validity of the data are assured.

Over the years, many groups supported the Smoother Sailing program. The high level of satisfaction from parents, teachers, and building principals documented through the survey results is confirmed by stakeholders from the community in a variety of ways. Nearly two million dollars in funds from the local business community were contributed to the Smoother Sailing program in its first two years of implementation and then voters approved a property tax levy in 1990 and a portion of those monies supported Smoother Sailing (Bart, 1998). Parents commented, "The Smoother Sailing counselor is a wonderful asset. She is intuitive and always willing to help students and parents" and "our school counselor is a visible presence in the building" (Kuhl, 1998, p. 34). Teachers have submitted letters of support to the district Board of Education. One such letter stated that the counselor "is an invaluable resource for children, parents, and teachers" (Bart, 1998). In the 1998-99 school year, the district was faced with budget cuts. The elementary counseling positions in the district were to be cut in half. When the news of the staff reductions reached the community, there was a groundswell of support. "Parents, teachers, principals, and community members all just started coming forward. They each saw something different in the program that they liked and wanted to keep" (Bart, 1998). Subsequently, no elementary school counselor positions were cut. The testimony of the stakeholders substantiates the quantitative satisfaction data from the surveys.

The Smoother Sailing program has process evaluation data on the consistent demonstration of the elementary counselor's role across time within a comprehensive, curriculum-based, developmental elementary counseling program (Culver, 2002). Evidence of the program's success should be gathered from a variety of people associated with the program

(Stufflebeam, 1985). The satisfaction of parents, teachers, and building principals were assessed, but one group, elementary school counselors, have not been asked to indicate their satisfaction with the Smoother Sailing program. There are no documented quantitative results verifying the satisfaction of this group. Lehr and Sumarah (2002) assessed factors that are critical to the successful implementation of a comprehensive school counseling program. Results from their study showed that counselors believe that support from the building principal and teachers is important for successful implementation. One might predict from the satisfaction data that support from building principals and teachers is evident. The Smoother Sailing program may wish to augment the satisfaction data being collected with a survey of counselor satisfaction.

“Although descriptive data provide important information regarding the breadth and depth of services, it does not provide information regarding the effectiveness of services” (Fairchild, 1994, p. 28). Satisfaction data are not sufficient evidence that the Smoother Sailing program has impacted student behaviors and attitudes (Borders & Drury, 1992b).

Comprehensive school counseling programs need to focus on student competencies and provide systematic evaluation of the implementation of the program and its impact (Gysbers et al., 1992; Trevisan & Hubert, 2001). The American School Counselor Association (ASCA) adopted National Standards for School Counseling Programs in 1997. These standards identify the attitudes, knowledge, and skills that students should attain through a school counseling program. These nine standards are organized into three content areas—academic, career, and social/emotional development—and designed to support student success and academic achievement. These standards define the role of school counseling programs within the educational system. School counselors are challenged to demonstrate the impact of their program within the framework of the national standards (Dahir, 2001). “Demonstrating accountability through the measured effectiveness of the delivery of the guidance program and the performance of the guidance staff helps ensure that students, parents, teachers,

administrators, and the general public will continue to benefit from quality comprehensive guidance programs” (Gysbers & Henderson, 2000, p. 284). Testimony by Janice Kuhl, supervisor of the Smoother Sailing program, before the Senate Committee on Health, Education, Labor, and Pensions on School Safety, in Washington, DC, cites examples of the positive impact of the program on students’ problem solving skills and students’ feelings about transitioning between elementary school and middle school (*Smoother Sailing*, 1999). Additional evidence is needed from the Smoother Sailing program to demonstrate that the program effectively meets the needs of students.

The Smoother Sailing elementary counseling program received federal funding to expand its program model to schools in the United States that wish to emulate this model (*Smoother Sailing*, 1999). Parents, teachers, and building administrators were satisfied with the program’s implementation in the elementary schools, since its early years. The continuous assessment of satisfaction with the Smoother Sailing program, by a variety of groups, is a necessary component of the evaluation of the program.

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**CHAPTER 4. The Impact of an Elementary School Comprehensive Counseling Program
on Student Self-Esteem, Behavior, Knowledge of Counseling Curriculum,
and Retention at Grade Level**

A paper to be submitted to *Measurement and Evaluation in Counseling Development*

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Abstract

This meta-analysis examined the impact of the Smoother Sailing program on students' self-esteem, student behavior in school and out, students' knowledge of Smoother Sailing curriculum, and retention of students from one grade to the next. The effect sizes were statistically significant for all except the self-esteem results. Students chose appropriate behaviors in school and out, more often. Student knowledge increased from pretest to posttest. The variability among some of the items assessing student knowledge suggests that student understanding of some content and skills may not be maximized through instruction. The Smoother Sailing program had a positive effect on lowering the proportion of students retained at grade level. Suggestions for the continual monitoring of the program's impact are made.

In response to Goals 2000: The Educate America Act, the American School Counselor Association developed National Standards for School Counseling Programs (Dahir, 2001). These standards were established for three purposes: to identify and implement goals for students, clarify school counseling's relationship to the educational system, and address school counseling's support toward student achievement (Dahir, 2001). Furthermore, several authors have noted the need for evidence of the impact elementary school comprehensive guidance programs have had on students (Borders & Drury, 1992; Crabbs, 1984; Gysbers, Hughey, Starr, & Lapan, 1992; Johnson, 2000; Otwell & Mullis, 1997). Counselors need to be

accountable for student competencies in addition to how many students were served or the variety of services that were offered (Borders & Drury, 1992; Gysbers & Henderson, 2000). Counselors have gathered data about how time is spent in various activities or about the skills the counselors possess, but fewer counselors collect data that showed how the school counselor's efforts affected students such as acquisition of stress management skills or improved course grades (Fairchild, 1993). The American School Counselor Association (ASCA) position statement on comprehensive and developmental guidance and counseling programs recognizes the need to create a school environment that promotes school success for students and the need to create comprehensive school counseling programs that advance and enhance student learning (American School Counselor Association, 1997). Whiston and Sexton (1998) stated, "... school counseling is at a critical juncture and there needs to be an increase in evidence that comprehensive developmental programs have a significant impact on children and adolescents" (p. 425).

This paper will examine the impact of an elementary (K-5) comprehensive, developmental guidance, and counseling program on student self-esteem, behavior, knowledge of the school counseling curriculum, and student retention at grade level. Most impact studies on school counseling between 1988 and 1995 investigated responsive services such as individual and group counseling, but not other areas of a comprehensive program, such as the counseling curriculum (Whiston & Sexton, 1998).

Program Evaluation

Many recognize that evaluation is necessary for maintaining school counseling programs (American School Counselor Association, 1997; Aubrey, 1982; Borders & Drury, 1992; Crabbs, 1984; Gysbers & Henderson, 2000; Helliwell & Jones, 1975; Lombana, 1985). Systemic evaluation and accountability for the components of school counseling programs are part of continuous improvement (Trevisan & Hubert, 2001). The evaluation of comprehensive,

developmental, school counseling programs involves assessing more than the steps of implementation or the satisfaction of students, parents, and staff. It is important to know the quality of the program and its effect on the people served (Worthen, Sanders, & Fitzpatrick, 1997).

One comprehensive framework for evaluating programs is provided in the model developed by Stufflebeam (1985), which uses feedback from the evaluation to effect change in the program for the purposes of decision-making, planning, and accountability (Stufflebeam, 2001; Worthen et al., 1997). The CIPP model is based on four types of educational evaluation: Context evaluation, Intput evaluation, Process evaluation, and Product evaluation. Decisions can be made based on the various data collected for each of the four types. Context evaluation examines program goals and priorities and assesses the needs of the target population. Input evaluation considers the resources available and relevant strategies for implementing a program plan. Process evaluation is an ongoing assessment of implementation involving monitoring events and activities and leads to decisions about revision, if needed. Product evaluation provides feedback about the impact of the program and leads to decisions about the merit and worth of a program (Stufflebeam, 1985). Product evaluation can be further divided into four subparts that evaluate the impact, effectiveness, sustainability, and transportability of a program. Program staff use the evaluation results continuously to improve the program (Stufflebeam, 2001).

Evaluation results also can influence others by adding to the accumulation of knowledge in a field, and therefore contributing to shifts in thinking or action. This accumulation of knowledge may be synthesized through meta-analysis (Weiss, 1998). Meta-analytic procedures provide a means for generalizing findings across populations, settings, and procedures (Cooper & Hedges, 1994). It is a methodology that summarizes quantitative studies, thus making it possible to combine and compare research results (Rosenthal, 1991). A meta-analysis of student results, such as changed behavior, improved attitudes toward self and others, improved

knowledge of counseling curriculum, and a reduction in the number of students retained at grade level from one year to the next, would provide evidence to support generalizations about impact of an elementary (K-5) school counseling program on students.

Impact on Student Attitude, Behavior, Curriculum Knowledge, and Grade Retention

School counselors need to verify that they are implementing the school counseling program and they need to determine the level of the program's impact on student performance (Johnson, 2000). Conducting context, input, and process evaluation is necessary before conducting product evaluation (Stufflebeam, 1985). Gysbers et al. (1992) suggest that program results be evaluated from several independent perspectives, such as determining the degree to which students master competencies from the school counseling curriculum, determining the impact on school climate, and determining satisfaction with the school counseling program. Several studies are reviewed that show the impact of school counseling programs.

Whiston and Sexton (1998) published an overview of school-based counseling outcome research documenting techniques and activities that create positive results for students. They organized their report using the four components of Gysbers and Henderson's (2000) model, guidance curriculum (classroom or group guidance activities to serve all students), individual planning (preventative interventions for students), responsive services (special assistance to students with problems), and system support (management activities of the counselor) of which 20 of the 50 studies in their review had samples that included elementary-aged students. The focus of four of the studies involving elementary students was the influence of counseling interventions primarily on student self-esteem. Five of the studies examined academic achievement as assessed by norm-referenced standardized tests or course grades. More than one-half of the studies involving elementary students investigated the impact of responsive services for students needing help with problem behaviors, school-related behaviors, and attitudes toward school or self. There were no studies of preventative interventions for

elementary students. The three studies listed under system support examined satisfaction of various groups with the counseling program.

A review of research from 1974 to 1984 in the journal, *Elementary School Guidance and Counseling*, listed the Type I (alpha) error level from statistical tests of studies in several school counseling areas. The 37 studies in the review examined elementary school counselors' effectiveness in encouraging classroom behaviors that lead to academic success, improving attitudes toward self and others, improving children's relationships with others, and improving student behavior and their achievement scores after relaxation training. Nine of the twelve studies on improving classroom behavior showed statistically significant results. Three of seven studies of attitudes produced statistically significant results. Eleven of the fourteen studies on interpersonal relationships reported a significant improvement. Finally, two of the four studies using relaxation techniques showed improvement in behavior and achievement scores (Gerler, 1985). The meta-analysis described in this paper augments the results cited by Gerler (1985) through the addition of the impact of a comprehensive, developmental, elementary counseling program on student self-esteem, behavior, knowledge of the school counseling curriculum, and student retention at grade level.

Two studies in the mid 1980s and mid 1990s examined the influence of school counselors teaching study skills to underachieving elementary students. The results were mixed. In the first study, 65 students receiving nine weeks of instruction self-reported improved classroom behavior, but that improvement was unsupported by teacher observation. Students significantly improved their course grades in mathematics and language arts, in contrast to no significant improvement on any of the measures by students who did not receive the instruction (Gerler, Kinney, & Anderson, 1985). A similar study in the mid 1990s reported that 236 students receiving lessons from school counselors on being successful in school improved their mathematics course grades, but there was no difference in classroom behavior as observed by teachers, student-reported attitude toward school, or language arts course grades (Lee, 1993).

A recent study of the impact of school counseling programs examined seventh grade student perceptions of satisfaction, safety at school, relationships with teachers, and importance and relevance of education to their future, as well as student-reported course grades (Lapan, Gysbers, & Petroski, 2001). Students attending middle schools with comprehensive school counseling programs reported feeling safer in their school, having better relationships with teachers, believing education is important and relevant to their future, being satisfied with the quality of their education, earning higher grades, and having fewer problems with interpersonal relationships.

One approach for demonstrating the impact of a program is meta-analysis. Meta-analysis provides for the generalization of findings across populations, settings, and procedures (Cooper & Hedges, 1994). It is a methodology that summarizes quantitative studies, thus making it possible to combine and compare research results (Rosenthal, 1991). Meta-analysis offers a method of accounting for the magnitude of the treatment effect in studies. The effect size, “the magnitude of an effect or more generally the size of a relation between two variables” (Cooper & Hedges, 1994, p. 534), is the statistic of interest that is reported for meta-analyses. Results of a meta-analysis create a basis for generalizing results across a variety of studies, and thus for summarizing the impact statistically (Cooper & Hedges, 1994). There are several meta-analyses of K-12 programs in career education and psychotherapeutic interventions (Baker & Taylor, 1998; Evans & Burck, 1992; Prout & Prout, 1998), but no recent meta-analyses that concentrate on elementary school counseling programs. The Smoother Sailing elementary school counseling program has been collecting data on student attitude, behavior, knowledge of school counseling curriculum, and student retention at grade level since 1988, and those data are the basis for this meta-analysis.

History of the Smoother Sailing Elementary School Counseling Program

The Smoother Sailing elementary school counseling program has been serving children from kindergarten through fifth grade since 1988. This program provides a comprehensive, curriculum-based, developmental program in the Des Moines Independent Community School District, in Des Moines, Iowa. The Smoother Sailing program received federal funding through the United States Department of Education for dissemination of the program nationwide because it is comprehensive and developmental, with an ongoing counselor training and evaluation component. The program was recognized as the model for the Elementary Counseling Demonstration Grant. Smoother Sailing is adapted from the Missouri Comprehensive Guidance Program (Gysbers & Henderson, 2000) and Myrick's (1989) model, consisting of a balanced structure that includes classroom developmental guidance activities, small group counseling, individual counseling, consulting with staff and parents, and coordinating counseling activities. The focus of Smoother Sailing is on the emotional, psychological, physical, and academic needs of students. The program serves more than 15,000 students, with a student-to-counselor ratio of 350:1, providing at least one counselor in every elementary school (Kuhl, 1998).

This program began in the 1988-89 school year in 10 Des Moines elementary schools, grades K-5, and expanded to all 41 elementary schools in the district during the 1991-92 school year. After the 1990-91 school year, an instructional support levy was approved by voters and funding became available to implement the Smoother Sailing program district-wide. From 1988-89 through the 1992-93 school year, the student to counselor ratio in Smoother Sailing program schools was 250:1, the ratio recommended by the American School Counselor Association (1997). After a series of budget cuts in the district, the ratio rose to 350:1 in 1993-94. Smoother Sailing was a pilot program from 1988-89 through 1990-91. During these pilot years, 10 elementary buildings were staffed with counselors at a ratio of 250:1, while 16 elementary schools had counselors with a student to counselor ratio of 850:1. An additional 13

schools were served by a counselor only in times of crisis. The 16 elementary schools, with a ratio of 850:1, shared school counselors and became the control group for some of the studies during those first 3 years, while other studies used the 13 schools with crisis counselors as the control group. The use of the two different control groups depended upon the nature of the study. Some studies asked questions that could be answered only if a counselor served the school on a regular basis, even if on less than a full-time basis.

An evaluation plan encompassing the four types of educational evaluation in the CIPP model—context, input, process, and product—has been implemented since the beginning of the Smoother Sailing program. Smoother Sailing program staff have collected quantitative data, beginning in 1988, on student self-esteem, student behavior in school and out of school, student knowledge of the counseling curriculum, and retention at grade level. The Smoother Sailing program does not have a quantitative synthesis of the accumulated data, so a meta-analysis would provide for a generalization of the findings across the years and demonstrate the impact on students in several areas. This meta-analysis concentrates on student attitudes, behaviors, knowledge of the counseling curriculum, and retention at grade level from the initial year of the program 1988 through 2001.

Previous summaries of Smoother Sailing program results have taken the form of a traditional review, with a synopsis of each study and its outcome (Kuhl, 1998; Kuhl, Gordon, & Cowles, 1994; Schnelker, 1989; Wallace, 1990). This meta-analysis of impact data will examine whether student self-esteem, student behaviors in school and out of school, knowledge of the program's curriculum, and retention at grade level changed during the first thirteen years of implementation of the Smoother Sailing program. The current school counselor literature does not include a meta-analytic review of the impact of elementary comprehensive, developmental counseling programs. A review of the Smoother Sailing program's impact data will allow comparison of change in student school behavior, attitude toward self and school, knowledge of the program curriculum, and retention at grade level from the inception of the program to 2001.

Method

Database

The data used in this study were drawn from a variety of sources, including published reports from the Smoother Sailing program, archived data sets from studies of the program since its inception, and communications with various audiences. Published reports were those disseminated to the district Board of Education, community groups, and granting agencies. Four program evaluation reports (Kuhl, 1998; Kuhl et al., 1994; Schnelker, 1989; Wallace, 1990) and an unpublished dissertation (Tompkins, 1999) provided some of the data included in this meta-analysis, while the remaining data were found in archived data sets. The Smoother Sailing program began in the 1988-89 school year as a pilot program, was implemented in all 41 elementary schools in 1991-92, and has continued through 2002-03. All student data related to the impact of the Smoother Sailing program on students from the program's inception (1988-89) to 2000-01 were considered for inclusion in the meta-analysis.

Retained data had to meet the following criteria:

1. Data included student self-reports of behavior and self-esteem, school records of student behavior and retention at grade level, and student performance on assessments of knowledge of Smoother Sailing program curriculum.
2. Data included statistics permitting the calculation or estimation of effect sizes.
3. When possible, data were collected from a control group using an experimental or quasi-experimental design.

Twelve sets of data, collected during seven different years, met the criteria above. Four areas of impact on students were investigated: self-esteem of students, student behavior in school and out of school, students' knowledge of Smoother Sailing curriculum, and retention of students from one grade to the next.

Student self-esteem

Third, fourth, and fifth grade students' self-esteem was assessed in the fall and spring of the 1990-91 school year. Students were selected randomly from Smoother Sailing program schools and schools served by a counselor only in times of crisis. In a follow-up study, three years later, students who had remained in the district were assessed with the same self-esteem inventory. The students from the original study would have been in sixth, seventh, and eighth grades during the 1993-94 school year. The Coopersmith Self Esteem Inventory (CSEI), a 58-item survey, was used for both studies. Students responded to statements as either *like me* or *unlike me* about themselves at home, school, and with peers. A Lie Scale is computed from 8 of the 58 items. A high score on the Lie Scale items suggested defensiveness by the respondent, so students with a Lie Scale score greater than 6 were excluded from the study. A maximum of 50 total points is possible on the CSEI after the 8 Lie Scale items are subtracted from the original 58 items. A total of 135 students, 77 from the Smoother Sailing program and 58 from the control group, completed the CSEI in the fall and spring of the 1990-91 school year. Three years later, 14 Smoother Sailing program students and 25 control group students completed the follow-up survey.

Student behavior

Two measures of student behavior were available for the meta-analysis. The first data set reported the number of students referred to the principal's office for disciplinary action in all 41 elementary schools. Summary data for these elementary schools were collected in 1987-88 and again in 1990-91. The difference in the number of referrals from the first year to the second year may be distorted by the enrollments at the two groups of schools, therefore, the number of referrals to the office was converted to a proportion of the total student enrollment for the schools in each of the two groups: 10 Smoother Sailing program schools and 13 schools served by a counselor only in times of crisis. The difference in the proportions from 1987-88 to 1990-91 provides a similar comparison between the two groups.

The second set of data was derived from a survey of middle and high school students' behaviors, attitudes, and beliefs. The Iowa Youth Survey is a survey available to all school districts in the state of Iowa. The survey assesses student substance abuse behaviors, attitudes, and knowledge of risk behaviors as well as other behaviors, attitudes, and beliefs. Student data were available from the 1996 and 1999 administrations of this survey. Parent consent was received prior to students completing the survey both years. School staff administered the survey to students using standardized procedures and ensured student anonymity. The sampling procedures and targeted population changed from 1996 to 1999. In 1996, the survey was designed for students in grades 6, 8, 10, and 12. In 1999, the survey was redesigned and was administered to students in grades 6, 8, and 11. In 1996, students in each of the targeted grades were sampled randomly for participation. In 1996, parent consent was received from 1,432 students, or 22% of the students selected for participation. In 1999, the sampling procedures changed; all students were included in the sample and parent consent was still required. In 1999, 5,130 students completed the survey, or approximately 75% of the district's population in those grade levels. In 1996, the Smoother Sailing program had been operating in all elementary schools for six years, and, by 1999, it had been operating for nine years. Some of the students responding to the youth survey in 1999 would have experienced the Smoother Sailing program during all six years of elementary school. One item on the 1999 survey asked students how long they had been enrolled in the district. Seventy percent of the students responded they had been a student in the district for four or more years. Ten items remained constant from the 1996 version of the survey to the 1999 version in the section of the survey on use of alcohol, tobacco, and drugs. The percentage of students who reported *have never used...* for each of the items in 1996 and 1999 were compared.

Student knowledge of Smoother Sailing Curriculum

The Smoother Sailing program has a sequential, developmental, written guidance curriculum. This curriculum has student goals, outcomes, developmentally appropriate

objectives, and a listing of activities to meet the objectives. Curriculum units are taught through classroom guidance lessons for kindergarten through fifth grade. There were six evaluations of students' knowledge of the curriculum content and skills in four different years from 1996-97 to 2000-01. In 1988-89, students completed a survey of their perceptions of need for additional information relative to the school counseling curriculum.

A student perception survey was created for use in 1988-89 with fifth grade students. Students responded to 28 topics that the school counselors address during fourth and fifth grades. The students indicated whether they needed more information on each of the 28 topics. The 28 items sampled topics in the areas of coping skills, interpersonal relationship skills, and academic/career skills. Students responded to each item with *yes*, *no*, or *unsure*, and the results were reported as the percentage of students indicating each option. One fifth grade classroom from each elementary school was selected randomly to participate. The data were reported for students in schools with Smoother Sailing counselors and for students in schools with a student-to-counselor ratio of 850:1. The intent of the survey was to show that students from Smoother Sailing program schools would desire less information about the topics addressed by their school counselor. Students in schools without the Smoother Sailing program and receiving fewer classroom guidance lessons would indicate a greater need for information on the topics listed. The number of students responding to each item from each group was not provided, so a response rate for each group was computed by multiplying the overall percentage of students responding, 52.04%, by the number of students in the original sample for each group.

One component of the Smoother Sailing program curriculum is personal safety. Elementary school counselors developed an 11-item paper/pencil assessment for third grade students for use before and after teaching the unit. Students responded to 11 items emphasizing recognition of and effective response to unsafe situations. Eight elementary schools were selected to participate in the study during the 1996-97 school year. A stratified random sample was used, balancing the schools selected based on geographic location in the district, racial

diversity in the school, and the percentage of students receiving free or reduced price lunches. The scores were not matched by students from the pretest to the posttest, so the data were treated as independent samples of 444 students completing the pretest and 417 students completing the posttest.

In 1996-97, counselors assessed the fears and concerns of fifth grade students as they anticipated the transition into middle school. The transition unit is part of the Smoother Sailing curriculum for fifth grade students. The students completed a three-section survey. The first section asked students about their feelings as they near the end of their final year in elementary school. The second section asked how often they used coping strategies to manage their feelings about the transition. The third section asked students' perceptions of the helpfulness of the transition unit. The scale for the first two sections, a total of 20 items, was a continuum from 1 (*most of the time*) to 4 (*hardly ever*). For the purposes of this research, the scale for positively worded behaviors was reversed, so the score increased as students reported more positive behaviors. The items assessing negative behaviors remained in the original scale because the mean score would increase as students exhibited fewer of the behaviors, the desired response. The first two sections were completed by students before and after the six week transition unit was taught. Students completed the third section of the survey on perceived helpfulness only in the spring. The results from the third section of the survey were dropped from the meta-analysis because there were no comparative data. Schools were selected through a stratified random sampling procedure using the same process as reported for the personal safety data. There were 439 students completing the survey in the fall and 417 completing the survey in the spring. The student data were not matched between the first administration of the survey and the second, so the data were treated as independent samples for the meta-analysis.

During the 1996-97 school year, 40 fourth grade students were selected randomly to participate in a study to assess problem solving skills. Two schools were selected for participation in the study. One of the elementary schools emphasized a consistent

implementation of the Smoother Sailing program's unique structure and components. The other elementary school implemented the Smoother Sailing program's components to a lesser degree. The counselors in this school offered fewer small group and classroom guidance sessions. The students from the second school served as a comparison group to the students from the first school. The two groups of students displayed similar demographic characteristics such as the size of the student population in each school, ethnic composition of the schools, and socioeconomic status as defined by the number of students receiving free and reduced price lunches. District counselors trained by a member of the district's Guidance and Counseling Evaluation Committee to conduct the interview met with each student. The students were asked to name, in order, the steps of the problem solving process taught during classroom guidance sessions. The interviewers scored the item on a four-point scale, with a score of 4 demonstrating that a student could name, in order, and briefly explain the four steps, and a score of 1 demonstrating the students could name none of the steps. The students also responded to six hypothetical, but typical situations for an elementary student, such as, "What would you do if someone takes something away from you?" The students' responses to the hypothetical situations were scored on a four point scale, with a score of 4 indicating that the problem was clearly identified and a score of 1 indicating that the student experienced difficulty in stating the problem, describing feelings, and suggesting a viable alternative to solving the problem. The interviewers scored each student's response; the total possible score for the hypothetical situations portion of the assessment was 24 (Tompkins, 1999).

Counselors interviewed first and fourth grade students as part of Second Step, a violence prevention unit that teaches skills related to anger management, empathy, and problem solving. During 1999-00, five boys and five girls in each first and fourth grade classroom in the district were selected randomly to be interviewed. School counselors interviewed students individually, recorded each student's responses, and assigned each student's responses an identification code. Members of the district's Guidance and Counseling Evaluation Committee

were trained to score the students' responses. First grade students were told a story about a child their age, and then were asked eight questions that involved interpreting how the child was feeling and suggesting ways the child could handle the situation. Students received one point for each correct answer to each of the eight questions. There were 197 first grade students interviewed in the fall and 156 students in the spring. In the fourth grade interview, the students responded to questions regarding what to say to themselves when they are angry, things to do to calm down, the definition of brainstorming, the process of brainstorming, and identifying opposite feelings. Students received one point for each correct answer to each of the five questions. There were 218 fourth grade students interviewed in the fall and 143 students interviewed in the spring.

School counselors taught kindergarten and first grade students about behaviors that get them "Ready to Learn" during the first semester of the 2000-01 school year. School counselors developed a structured interview to use with students individually before and after the unit was taught. Students were asked five questions about how they show the teacher that they are listening and paying attention to a lesson, what they do if they don't understand, and what they do if they try something and it doesn't work. School counselors assigned one point for each correct response. Some questions were worth more than one point. A maximum of 12 points was possible for the interview questions. All elementary schools that served kindergarten and first grade students participated with the exception of three schools. Two exempted schools provide an ungraded, mixed-age setting for elementary students and the third school served only third through fifth grade students. Twenty-five schools, out of 39, returned pretest and posttest matched results for a total of 491 students.

Retention at grade level

The number of students recommended for retention at grade level was examined in the 1987-88 and 1990-91 school years. The district administrative office tallied the number of students who had been recommended for retention and therefore would not be promoted to the

next grade level for both the 10 Smoother Sailing program schools (250:1 student-to-counselor ratio) and the 13 schools that had a counselor only in times of crisis. The number of students retained was converted to a proportion of total student enrollment at each of the two groups of schools, in a manner similar to the discipline referral data described earlier. The difference in proportions retained from the first year to the second year was used to measure program effectiveness.

Meta-analysis

This meta-analysis examined group differences occurring between treatment and control groups—independent groups using the same measure—and differences between pretest and posttest results with matched groups of students. The data elements needed to compute the standardized mean difference were available for all 12 of the student impact data sets. The effect size formula for the standardized mean difference computes the difference between group means divided by the pooled standard deviation. Algebraically equivalent formulas for this effect size were used, depending upon the statistics available from each data set (Lipsey & Wilson, 2001). The result was an effect size that could be compared across the data sets within each of the four areas of student impact data examined in this meta-analysis: self-esteem, behavior in school and out of school, knowledge of the Smoother Sailing curriculum, and retention at grade level.

A summary is provided of the statistical information available from each data set used to estimate the effect size. Reports of the two years of self-esteem data contained means, an *F*-value, and mean-squares within group value comparing Smoother Sailing students, the treatment group, with students attending schools with only crisis counselors. Means and standard deviations were reported for personal safety and transitioning data. Individual student data, without names or student identification numbers, were available for the problem solving, violence prevention, and readiness to learn data. For purposes of this research, means and standard deviations were computed from these individual student data. Direct calculation of the

standardized mean difference effect size was possible for all data sets that included means, standard deviations, and sample size. An algebraically equivalent formula was used for the self-esteem data, since an F-value and a mean-squares within group value were available. The office referrals, retention at grade level, youth surveys, and student perception survey data were reported as proportions of students. The arcsine transformation method of estimating the effect size was used. This formula provides a conservative estimate of the effect size and is appropriate for proportions that represent the allocation of subjects in each category. The arcsine transformation makes comparable the differences between proportions at any point between zero and one (Lipsey & Wilson, 2001).

The unit of analysis for this study was each of the 12 sets of data. Each set of data contributed one effect size to the overall synthesis. To ensure each data set contributed only one effect size, a weighted average effect size was calculated. Each effect size was weighted by the inverse of its variance (w_i) (Cooper, 1998; Cooper & Hedges, 1994; Lipsey & Wilson, 2001). If the effect sizes were simply averaged together and not weighted, then effect sizes with smaller sample sizes contribute equally to the average. These effect sizes with the smaller sample sizes may have greater sampling error and these studies would be disproportionately represented in relation to studies with larger sample sizes. Additional analyses assessed whether the effect sizes were homogenous (Q statistic, $p < .05$), the confidence interval around the average effect size estimate, and whether the weighted average effect sizes were greater than zero using a z -value for $p < .05$. Insufficient data were available to estimate the effect of moderator variables.

The information required to generate and analyze effect sizes was entered into a Microsoft Excel spreadsheet. The information included: codes to identify the source of the data, year the data were collected, construct being measured, title and specific items on the data collection form, item scale (i.e., like me/not like me), time of measurement, population description, sampling procedures, and data for student groups on outcome measures. Raw effect sizes were calculated from the means, standard deviations, proportions, and mean-squares within

values using the Effect Size Determination Program (Wilson, 1996). Formulas for w , Q , the confidence interval, and z were entered into Microsoft Excel (Cooper, 1998).

Results

Statistical Significance of Effect Sizes

Effect size is represented in standard deviation units, and various authors interpret the magnitude of effect size differently. Cohen (1988) suggests that an effect size of 0.2 is small, 0.5 is medium, and 0.8 is large, but Wolf (1986) cites several other authors who have identified effect sizes of 0.25 and 0.5 as having practical significance. The median effect size for the distribution of standardized mean difference effect sizes published in psychological, behavioral, and education literature, was 0.5, and the bottom quartile was less than or equal to 0.3, while the top quartile was greater than or equal to 0.67 (Lipsey & Wilson, 2001). In general, an effect size of zero indicates that the treatment had no effect on the phenomenon, and the larger the effect size, the greater the degree to which the phenomenon under study is present in the population (Cooper, 1998; Lipsey & Wilson, 2001).

The four areas of impact investigated for the Smoother Sailing program are reported in Tables 1 through 4. The year the data were collected, type of comparison made to compute an effect size, method of data collection, and the effect size are reported. The effect sizes range from -0.14 to 1.86 . The effect sizes for the student behavior and retention at grade level data would be considered small as defined by Cohen (1988). The effect sizes for the self-esteem data are slightly larger, but not large enough to be considered of medium size. Results are mixed for the sets of student knowledge data represented in Table 3. Two effect sizes would be considered small (-0.14 and 0.10), three medium (0.5 , 0.51 , and 0.59), and two large (0.92 and 1.86). These individually listed effect sizes were averaged within each area of student impact, and those results are displayed in Tables 5 through 8.

Table 1. Student Self-Esteem Effect Sizes, by Year

Year	Comparison	Data Collection Method	Effect Size
1990-91	Treatment-Control Group	Survey	0.25
1993-94	Treatment-Control Group	Survey	0.30

Table 2. Student Behavior Effect Sizes, by Year

Year	Comparison	Data Collection Method	Effect Size
Office referrals: 1987-88 and 1990-91	Treatment-Control Group	District records	0.11
Substance abuse: Fall 1996 and Fall 1999	Group Contrast	Survey	0.04

Table 3. Student Knowledge of Smoother Sailing Curriculum Effect Sizes, by Year

Year	Comparison	Data Collection Method	Effect Size
Student perceptions: 1988-89	Treatment-Control Group	Survey	0.10
Personal safety: 1996-97	Group Contrast	Survey	0.50
Problem solving: 1996-97	Treatment-Control Group	Interview	-0.14
Transitioning: 1996-97	Group Contrast	Survey	0.92
Violence prevention: 1999-00	Group Contrast	Interview	0.51
Violence prevention: 1999-00	Group Contrast	Survey	0.59
Ready to learn: 2000-01	Pre-Post Contrast	Interview	1.86

Table 4. Student Retention at Grade Level Effect Sizes, by Year

Year	Comparison	Data Collection Method	Effect Size
1987-88 and 1990-91	Treatment-Control Group	District records	0.07

Tables 5 through 8 show the type of comparison(s) for the data sets, the number of data sets averaged to produce the weighted mean effect size, confidence interval for the weighted effect size, and tests of homogeneity. The confidence interval is a range of values that contains the mean of the population given the observed data, and is useful in showing the precision of the weighted mean effect size. If the confidence interval does not include zero, then the weighted mean effect size is statistically significant (Lipsey & Wilson, 2001). The 95 percent confidence interval does not include zero for the student behavior, student knowledge, and retention at the same grade level data, and therefore are statistically significant. A z score was computed for each significant weighted mean effect size, and the level of significance is noted (see Tables 6, 7, and 8). Although the weighted mean effect sizes would be considered small for the student behavior and retention at grade level data, these effect sizes are statistically significant. The very small standard errors (0.01 and 0.02, respectively) contribute to large z values (6.12 and 3.17, respectively).

Homogeneity of Effect Sizes

Determining the homogeneity of effect sizes answers the question of whether or not the effect sizes vary between and within sets of data. This statistical test assesses whether an individual effect size differs from the population mean by more than sampling error. The homogeneity statistic is the value of Q and is based on a chi-square distribution with $j - 1$ degrees of freedom, where j is the number of effect sizes. The between-groups statistic, Q_b , is calculated to test the hypothesis that the mean effect between or among the data sets differs by more than sampling error. The number of degrees of freedom for Q_b is also $j - 1$. The within-

groups statistic, Q_w , tests whether the variability within each set of data is greater than would be expected from sampling error alone. In contrast to Q_b , the number of degrees of freedom for Q_w is $k - j$, where k is the number of effect sizes within each set of data and j is as defined above (Cooper, 1998; Cooper & Hedges, 1994; Lipsey & Wilson, 2001). In the case of the self-esteem data, a value of Q_w could not be computed for the treatment-control group data because there was only one set of data for each year, and thus no variation within each year's self-esteem data. The values of Q_w and Q_b could not be computed for the retention at grade level data because there was only one set of data, and thus no variation.

Tables 5 through 8 show the values of Q_b and Q_w for each area of student impact investigated. The values for Q_b and Q_w were statistically significant for the student behavior data (see Table 6). The $Q_b(1) = -95.837$ ($p < .001$) statistic was significant for the student behavior data. The effect sizes between the office referrals and student substance abuse sets of data vary by more than sampling error. This variation is difficult to interpret. The effect sizes were small for both sets of behavior data, 0.11 and 0.04 respectively, but not dramatically different from each other. Each of the effect sizes was statistically significant separately, as well as when combined. The size of Q_b is affected by the large value of Q_w and the relatively small value of Q_r . Since the within-groups value, Q_w , is subtracted from the value of Q_r , the nature of these two values produced a negative result for Q_b . The $Q_w(1) = 104.38$ ($p < .001$) value also is statistically significant for the student behavior data, indicating that the variability within the effect sizes for the two indicators of student behavior that were surveyed is greater than expected from sampling error alone (see Table 6). The single set of office referral data produced a single effect size that was used in the weighted mean effect size formula and thus did not account for the variability within the mean effect size. In contrast, the substance abuse data consisted of 10 items. The range in individual item effect sizes for the substance abuse data is from -0.19 to 0.16 , showing variability among the survey items. The negative effect size of -0.19 reflects a decline in the percentage of non-binge drinking by students from 1996 to 1999,

while the positive effect size of 0.16 reflects an increase in the percentage of students who reported no alcohol or drug abuse at school from 1996 to 1999. This variation within the 10 items comprising the substance abuse data accounts for the significant value of Q_w .

The values of Q are significant for the student knowledge data, too. The $Q_b(6) = 453.11$ ($p < .001$) statistic is significant for the student knowledge data, indicating that factors other than sampling error account for the heterogeneous distribution of effect sizes for student knowledge (see Table 7). The effect sizes for each of the seven sets of student knowledge data (see Table 3) range from -0.14 for the problem solving data in 1996-97 to 1.86 for the Ready to Learn data in 2000-01. The difference in performance between the pretest and posttest for the kindergarten and first grade students in the Ready to Learn data showed a dramatic increase, and therefore a large effect, when compared with the treatment and control group data from the problem solving study in 1996-97. The $Q_w(71) = 804.50$ ($p < .001$) statistic is also significant for the student knowledge data, indicating that factors other than sampling error within each set of data account for the heterogeneous distribution of effect sizes within each assessed area of the Smoother Sailing curriculum. For example, the effect size values for the 28-item student survey on curriculum needs ranged from -0.11 to 0.25 . Five of the 28 items had a negative effect size, thus showing variability within the items on the student survey. The Second Step results demonstrate another example of variability across items. The effect size values ranged from 0.08 to 1.18 . There was little change in student responses pretest to posttest on the item asking students to tell how the child was feeling in the hypothetical situation, but a dramatic increase in their ability to describe what else the child could do.

Table 5. Mean Effect Sizes for Student Self-Esteem Data

Comparison	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Treatment-Control Group Data ^a	2	0.26	-0.04	0.57	0.01	Not applicable

^a Standardized mean difference (d) was computed.
There is no significant difference.

Table 6. Mean Effect Sizes for Student Behavior Data

Comparison	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Treatment-Control Group or Group Contrast Data ^a	2	0.05 ***	0.04	0.07	-95.84 ***	104.38 ***

^a Standardized mean difference (d) was computed.

*** $p < .001$

Table 7. Mean Effect Sizes for Knowledge of Smoother Sailing Curriculum Data

Comparison	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Treatment-Control Group, Group Contrast, or Pre-Post Contrast Data ^a	7	0.63 ***	0.61	0.65	453.11 ***	804.50 ***

^a Standardized mean difference (d) was computed.

*** $p < .001$

Table 8. Mean Effect Sizes for Student Retention in Grade Data

Comparison	Number of Data Sets	Weighted Mean Effect Size	95% CI for Effect Size		Homogeneity Between Data Sets (Q_b)	Homogeneity Within Data Sets (Q_w)
			Lower	Upper		
Treatment-Control Group Data ^a	1	0.07 **	0.03	0.11	Not applicable	Not applicable

^a Standardized mean difference (d) was computed.

** $p < .01$

Discussion

The Smoother Sailing elementary school counseling program collected data on student attitude, behavior, knowledge of school counseling curriculum, and student retention at grade level. Twelve sets of data from seven different years assessed a variety of areas in which the program potentially had impacted students. The weighted mean effect sizes were statistically significant for the student behavior, knowledge of school counseling curriculum, and retention at grade level data. The self-esteem data did not result in a statistically significant effect size. The largest mean effect size was associated with student knowledge of the Smoother Sailing curriculum. Six of the seven different assessments of students' knowledge, with the exception of problem solving, yielded positive effect sizes, and the mean effect size was 0.63. These results suggest that elementary counselors instruct students effectively in the Smoother Sailing curriculum and that students subsequently learn the content and skills. Two of the areas, violence prevention and readiness to learn, were assessed through an interview. Students not only had to identify steps in a process such as brainstorming, but they also had to evaluate a hypothetical situation and respond with solutions for the situation. The small, but statistically significant, effect size for the student behavior data suggests that students are choosing appropriate behavior more often. Students in middle and high school completed the substance abuse survey in 1996 and 1999. Seventy percent of the students who completed the survey in 1999 indicated that they had been enrolled in the district for four or more years, and therefore

many students would have had experienced the Smoother Sailing elementary counseling program in the years prior to completing the survey. This meta-analysis did not investigate causal relationships between student knowledge and their subsequent behaviors, so definitive conclusions regarding actual student behavior in a given situation cannot be drawn. Future research should analyze whether student knowledge of the concepts and skills taught through the Smoother Sailing program in fact does result in students choosing appropriate behaviors.

There was variability in the student behavior and knowledge data that could not be explained by sampling error alone. Percentages varied for student self-reported abstinence from each of the 10 substance abuse behaviors. For some of the substance abuse behaviors, a very high percentage (98%) of students reported abstaining. An increase, from 1996 to 1999, in the percentage of students abstaining was reported in the following areas: alcohol, tobacco, smokeless tobacco, inhalant, marijuana, or cocaine use, as well as an increased percentage of students reporting no substance abuse at school. In contrast, a smaller percentage of students reported abstaining from binge drinking from 1996 to 1999. Ninety-eight percent of students reported abstaining from methamphetamines in both years. This variability across behaviors contributed to the statistically significant Q values for the student behavior data. The variability among some of the items assessing student knowledge data suggests that student understanding of some content and skills may not be maximized through instruction. Elementary counselors should monitor students' knowledge of the counseling content and skills and review activities if students fail to demonstrate understanding. Some activities may need to be adjusted so students learn the content and skills. Without documentation of the instructional activities, it is not possible to know what actually happened in the classroom or during the activity, nor to be sure if the intervention had an impact (Whiston & Sexton, 1998).

The non-significant effect size for student self-esteem is consistent with Whiston and Sexton's (1998) and Gerler's (1985) reviews of school counseling outcome research. They found inconsistent results across studies of self-esteem for elementary students. Both of these

reviews address the methodological flaws of the reviewed research, such as the lack of detailed information about the participants and use of convenience sampling. The non-significant effect size for Smoother Sailing students may be due to lack of detailed information about the participants in the follow-up study or the inability to locate students three years later. The students in the original sample for the Smoother Sailing study were in grades three, four, and five in 1990-91. The third grade students in 1990-91 had three years of the Smoother Sailing program when the follow-up self-esteem inventory was administered in 1993-94 versus only one or two years for the fifth and fourth grade students. The grade level of the students in the follow-up study was not reported, so analysis of the third grade students' self-esteem data as sixth grade students, was not possible. Any increased impact on third grade students' self-esteem that may have been evident, was lost in the average score for the group. Another reason for non-significant self-esteem results may be that the number of students completing the follow-up study was small, only about one-third of the original sample. The sample size was reduced from 136 students in 1990-91 to 30 in 1993-94.

Several of the indicators of the effect of the Smoother Sailing program were not monitored repeatedly through the years. The district ceased its practice of retaining students in the early 1990s, and therefore this indicator was no longer available. The assessment of student self-esteem also was discontinued. As noted in the research review by Whiston and Sexton (1998), studies of self-esteem have produced mixed results, and the results from the Smoother Sailing program would suggest the same. The discipline referral data was not examined after 1991 either. The district's discipline procedures were altered during the next decade and no comparative data were available. These changes prompted the Smoother Sailing program to establish, in the mid-1990s, a long-term evaluation plan for the program (Des Moines Guidance and Counseling Department, 1998).

The development of an evaluation framework provides an organizing structure for evaluating the results of the program. Counselors gather data systematically and then reflect

upon the results from those data to contribute to the planning process in the future (Lapan, 2001). The Smoother Sailing elementary counseling program has plans for evaluating all aspects of the program, including reviewing curriculum and implementation and gathering evidence of the program's impact on students, parents, and staff. The program's unique structure has been implemented consistently, and a high level of satisfaction with the program by parents, teachers, and administrators has been demonstrated (Culver, 2002a, 2002b). The Smoother Sailing program staff should continue monitoring the program's impact by following the program's evaluation plan.

The connection between school counseling programs and academic achievement is elusive (Dahir, 2001; Johnson, 2000; Whiston & Sexton, 1998). Johnson (2000) suggests that the overarching mission of a comprehensive counseling program is the "facilitation of students learning and development" (p. 33). School counseling staff have the challenge of establishing this connection. The results of this meta-analysis demonstrate that school counseling programs can impact what students know about counseling content and skills taught to them directly, such as personal safety, violence prevention, and readiness to learn. Though not reported in this meta-analysis, Smoother Sailing counselors has qualitative data since 1988-89, collected through case studies about individual students served by the program. The program has over 100 of these case studies, which have been summarized at various times throughout the program's history, and anecdotal evidence from the case studies has been presented to the district's Board of Education (Kuhl, 1998; Kuhl et al., 1994; Schnelker, 1989; Wallace, 1990). It is difficult to show the direct impact of the Smoother Sailing program on students' general academic achievement, but the case study model could be used to show the impact of the program on academic achievement. In addition to the information currently being gathered, specific data about each student's test scores, school attendance, and discipline could be combined with anecdotal information about the student. The resulting information could remain confidential, but updated continuously as the student progresses with counseling interventions. The

aggregate of many students' academic and behavioral data might begin to provide documentation of the Smoother Sailing program's impact on student achievement and related behaviors.

The Smoother Sailing program makes a difference in students' knowledge about content and skills of an elementary school counseling curriculum. Student behaviors have been positively impacted during the years that the Smoother Sailing program has been implemented. The proportion of students referred to the school office for disciplinary action declined and the percentage of students abstaining from substance abuse behaviors increased. The comprehensiveness of the program's evaluation plans documents the consistent implementation of the program for over a decade, a high level of satisfaction with the program, and the program's positive impact on students' knowledge of the Smoother Sailing curriculum and improvement of students' behaviors in school and out of school.

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CHAPTER 5. General Conclusions

Evaluating elementary school counseling programs requires ongoing efforts at all stages of implementing the counseling program (Gysbers & Henderson, 2000). The use of an evaluation model provides structure to the data collection process. The CIPP model (Stufflebeam, 1985) organizes data collection into four areas; context, input, process, or product information. Counselors use the information collected in each of the areas to make decisions for the continuation, refinement, or abandonment of components of the counseling program. Several authors (Aubrey, 1982; Borders & Drury, 1992a; Gysbers, Hughey, Starr, & Lapan, 1992; Lombana, 1985; Worthen, Sanders, & Fitzpatrick, 1997) suggest that multiple sources of data should be used to inform decisions about implementing the program and showing impact. Measuring the effectiveness of the guidance program helps ensure that it benefits students, parents, teachers, administrators, and other stakeholders (Gysbers et al., 1992). The Smoother Sailing program collected, over the years, a variety of evaluation data on the implementation of the program, the satisfaction of parents and staff, and the effects of the counseling program on students (Des Moines Guidance and Counseling Department, 1998). The data from the Smoother Sailing program were analyzed through meta-analytic procedures with the purpose of summarizing, statistically, the effects of the school counseling program.

The first paper in this dissertation, Chapter 2, suggests that Smoother Sailing was able to maintain a balance of counselor time devoted to various functions, as defined originally by the program. A framework for working with children individually, in small groups, and through classroom guidance was established in 1988-89 and continued throughout the years. The effect sizes were small and not statistically significant for the counselors' distribution of time. This means that the counseling program has been implemented district-wide for more than a decade and that there has been little change in the school counselor role throughout that time. The distribution of time was similar for Smoother Sailing program school and the

16 schools with a student-to-counselor ratio of 850:1, as well as during the years the program was implemented in all 41 elementary schools. There is variability within the data during each year that the counselor's role was reviewed. Generally, over time Smoother Sailing counselors spent slightly more time in individual counseling and less time in classroom guidance. The difference in the proportion of time elementary counselors spent in each of these functions was consistent across the years, just slightly askew from an equal distribution. The Smoother Sailing program model recommends one-third of counseling time be divided equally among classroom guidance, small group counseling, and individual counseling including consulting with parents, teachers, or community members. Elementary school counselors should provide counseling to individuals and small groups as well as provide classroom guidance in alignment with the program model and consider how the distribution of time supports student learning.

In the second paper, Chapter 3, the satisfaction of parents, teachers, and building principals with the Smoother Sailing program was assessed at various times from 1989 through 2000. There were four sets of parent satisfaction data, two sets of teacher satisfaction data, and three sets of building principal satisfaction data. The weighted mean effect sizes were statistically significant for all groups, suggesting that parents, teachers, and building principals were satisfied. There was some variability within the parent and building principal data. Data for one year for each group produced a negative effect size, suggesting less agreement with the statements in the survey for that year. Overall, the weighted mean effect sizes are positive and statistically significant. Narrative information supports these quantitative satisfaction data. The counseling program received financial support from the business community, as well as written and verbal support from parents, teachers, building principals, and community members. However, knowing that parents and staff are satisfied with the Smoother Sailing program does not provide evidence that the program has impacted student behavior and attitudes (Borders & Drury, 1992b). Comprehensive school counseling

programs need to focus on student competencies and provide systematic evaluation of the impact of the program on students (Gysbers et al., 1992; Trevisan & Hubert, 2001).

Chapter 4, the third paper, examined the impact of the Smoother Sailing program on students' self-esteem, student behavior in school and out of school, students' knowledge of the Smoother Sailing curriculum, and retention of students from one grade to the next. The self-esteem data were collected from elementary and middle school students using the Coopersmith Self Esteem Inventory. Student behavior data included the number of students referred to the elementary school principal's office for disciplinary action and middle and high school students' responses to a survey on their use of alcohol, tobacco, and drugs. The student knowledge data included knowledge of personal safety skills, problem solving skills, readiness to learn behaviors, and strategies for coping with the transition from elementary school to middle school, as well as students' perception of their need for additional information on 28 different topics that elementary school counselors teach to students in the district. The final set of data investigated the number of students recommended to be retained at the same grade level in the district's elementary schools. The weighted mean effect size was statistically significant for the student behavior, student knowledge of Smoother Sailing curriculum, and retention at grade level data. There was variability in the student behavior and knowledge data that could not be explained by sampling error alone. Percentages varied for student self-reported abstinence from each of the 10 substance abuse behaviors. For some of the substance abuse behaviors, a very high percentage (98%) of students reported abstaining. An increase, from 1996 to 1999, in the percentage of students abstaining was reported in the following areas: alcohol, tobacco, smokeless tobacco, inhalant, marijuana, or cocaine use from 1996 to 1999, as well as an increased percentage of students reporting no substance abuse at school. In contrast, a smaller percentage of students reported abstaining from binge drinking from 1996 to 1999. The variability among some of the items assessing student knowledge data suggests that students' understanding of some content and skills may

not be maximized through instruction. For example, the results from the violence prevention unit, Second Step, showed little change in student responses pretest to posttest on the item asking students to tell how the child was feeling in the hypothetical situation, but a dramatic increase in their ability to describe what else the child could do.

In summary, meta-analyses were conducted of the Smoother Sailing program's implementation and result data. The results of these meta-analyses suggest three conclusions. First, the elementary counselors maintained a balance among three key functions of the Smoother Sailing program: individual counseling, small group counseling, and classroom guidance. Second, parents, teachers, and building principals consistently demonstrate high levels of satisfaction with the Smoother Sailing program. Finally, during the years that the Smoother Sailing program has been implemented, there are positive effects on student knowledge of the counseling curriculum and student behaviors in school and out of school, as well as a reduction in the percent of students retained at the same grade level from one year to the next.

Implications for elementary school counseling programs

Historically, program evaluation within the school counseling field has reported the services offered, percentage of counselors' time spent on various functions, and numbers of students served (Borders & Drury, 1992a). Counselors need a systematic and comprehensive approach to evaluating the various components of the counseling program (Borders & Drury, 1992a; Crabbs, 1984; Paisley, 2001). The CIPP model (Stufflebeam, 1985) is a decision-making model designed to improve the program and to evaluate the merit or worth of a program (Stufflebeam, 2001). Collecting data from all four components of the CIPP model—context, input, process, and product—provides a broad perspective on the program from which counselors can make decisions on the continuation of the counseling program, changes in the program, or abandonment of components of the program.

The task of evaluating a comprehensive, developmental counseling program seems daunting, but all components of the program need not be evaluated each year (Crabbs, 1984). Counselors should establish a timeline that provides for the review of the implementation of the counseling program, the satisfaction of stakeholders, and the impact of the counseling program on students. "The evaluation process is made manageable when it is viewed as a continuous process and when specific services are isolated for scrutiny at different times" (Fairchild, 1994, p. 29).

Elementary school counseling programs cannot rely on single indicators of success. This dissertation concentrated on quantitative measures of the Smoother Sailing program's implementation and success as evidenced by satisfaction of various stakeholders and by the impact on student self-esteem, behavior, knowledge of counseling curriculum, and retention at grade level. Qualitative approaches such as case studies or participant observations are important components, too (Borders & Drury, 1992a; Stufflebeam, 2001). Multiple sources of data should be used to inform decisions about implementing counseling programs and showing the program's impact (Aubrey, 1982; Borders & Drury, 1992a; Gysbers et al., 1992; Lombana, 1985; Worthen et al., 1997). In addition, collecting data throughout the implementation of a counseling program provides supportive evidence for decisions that are formative as well as summative. The school counselor should gather a variety of evaluative data for the important components of the elementary counseling program.

Implications of meta-analyses in field evaluation research

The Smoother Sailing program collected a variety of data from 1988-89 to 2000-01. A meta-analysis aggregates and compares quantitative studies making it possible to combine and compare research results (Rosenthal, 1991). One of the interesting features of this meta-analysis is that the data collected during 13 years varied considerably from construct to construct. For example, there were treatment and control group data reported as inferential statistics, comparing the satisfaction of teachers with the school counseling program at

Smoothen Sailing program schools with the satisfaction of teachers at the elementary schools with a student to counselor ratio of 850:1. Another type of statistics, descriptive statistics, such as means and standard deviations, were reported for other data such as student knowledge of personal safety concepts and transitioning from elementary school to middle school. Finally, descriptive statistics, in the form of proportional data, were prevalent across many of the Smoothen Sailing studies. For example, the counselor role was reported as the proportion of time spent providing individual counseling, small group counseling, and classroom guidance. The various effect size statistics that were used in this meta-analysis were necessary to aggregate the results of the 26 data sets. The implications of a meta-analysis using field data are described in the five stages of research synthesis.

There are many challenges to conducting a meta-analysis with data collected from a program that has been operating for thirteen years. The challenges encountered included collection of data, selection of data for analysis, and analysis of available data. Cooper and Hedges (1994) describe five stages of research synthesis. The decisions made for these meta-analyses are described as they relate to the five stages from Cooper and Hedges (1994).

Cooper and Hedges (1994) suggest in the first stage, problem formation, the synthesist defines the research question to be summarized and identifies the studies that meet certain criteria. A meta-analysis brings fresh insights to the field of study. The evaluation of the elementary counseling program, Smoothen Sailing spans 13 years, serving over 15,000 students in 41 elementary schools every year. It is a comprehensive, developmental counseling program that has evaluated counselor activities, satisfaction of parents and school staff, and a variety of areas of impact on students throughout its implementation. There are few meta-analyses in the school counseling field, especially at the elementary level. This meta-analysis contributes a synthesis of counselor roles, satisfaction results, and student impact results for a model counseling program, Smoothen Sailing.

The second stage is the data collection stage. The synthesist culls through the literature for relevant studies (Cooper & Hedges, 1994). For these meta-analyses, there was no traditional literature search of reference databases such as ERIC. The studies and data used in the meta-analyses were summarized in reports to the district board of education; reports to the local business community; a testimony by the program director before the United States Senate Committee on Health, Education, Labor, and Pensions Hearing on School Safety; and sets of data archived on computer hard drives and floppy disks, and in file cabinets. Additional information concerning sampling procedures and other processes used for the various studies and data sets were gathered from the original investigators. Some of these investigators no longer work for the district in which the Smoother Sailing program operates, so they were contacted via email and telephone or interviewed in person. Many of the original Smoother Sailing surveys and much of the supporting documentation from the first five years of the program were destroyed inadvertently when the Smoother Sailing program moved from one office to another in 1999. Some of the original surveys and supporting documentation from 1993-94 through 1996-97 were lost during that move, but documentation from those years were obtained from the individual who served as an evaluation specialist from 1993 through 1997. The consequences of these losses are described in the data evaluation stage below. The Smoother Sailing program director provided the synthesist with original surveys and reports from the most recent years. All documents and data that were available were given to the synthesist for use in these meta-analyses.

The third stage is data evaluation, during which the synthesist extracts the information that will help answer the research question being asked. The synthesist codes the information from each study so the data can be entered into a computer program for analysis (Cooper & Hedges, 1994). A coding form for these meta-analyses was designed and tested with the studies and data sets for Chapter 2 of this dissertation. One of the dilemmas

encountered during the coding process was the absence of data. Several examples of missing data were reported in the three papers prepared for this dissertation. For example, the t -value was not reported for all the teacher satisfaction data in 1989. The median standard error from the seven items with a t -value was used in calculating a t -value for the four items missing a t -value. Other sets of data were missing too many details and were deleted from the analyses. For example, Iowa Tests of Basic Skills (ITBS) results were not included in Chapter 4. The district provided ITBS data from 1987-88 to 2001-02. During that span of years, the norming group changed three times, the items on the test changed three times, the specific data reported to the district changed twice, and no variability data were reported. Another example of unusable data was student referrals. In 1988-89, the number of students referred to the school counselor was recorded for each school in the district. In 1994-95, school counselors recorded the number of students referred to outside agencies. Although both sets of data were called student referrals, they were not measuring the same construct. Neither set of data was included in the meta-analysis because a comparison was not available to help in determining the effect size.

Cooper and Hedges (1994) describe the fourth stage, analysis and interpretation, as the technical aspects of combining study results and determining differences in the outcomes of studies so the synthesist can make inferences about the original problem. The findings from the various studies and data sets used for these meta-analyses were reported as group means and standard deviations, proportions of observations in a particular category, t -values, or F -values. The effect size formulas used in a meta-analysis must align with the type of data reported. The same effect size statistic must be used for all findings in a given meta-analysis (Lipsey & Wilson, 2001). Chapters 2, 3, and 4 are each a meta-analysis, and it was noted in each of those chapters when a different effect size statistic was used. In Chapters 2, 3, and 4, the standardized mean difference (d) and Cohen's h (proportion data) were used. Algebraically equivalent forms of d were used in Chapters 3 and 4 for findings reported as t -

values and *F*-values. The data reported in this dissertation included several different constructs, such as parent satisfaction, student self-esteem, and student knowledge of the Smoother Sailing curriculum. Each construct and each effect size statistic must be analyzed separately resulting in a small number of studies being available for each analysis (see Table 1). For example, the data for counselor activities were organized into two groups. The treatment and control group data were analyzed using the standardized mean difference effect size (*d*) and the single group data were analyzed using Cohen's *h*. Direct comparison of the values for each effect size statistic cannot be made and the five sets of data for counselor activities cannot be combined for a single effect size value. These effect sizes for *d* and Cohen's *h* were not statistically significant and they could not be combined for a single effect size to describe the counselor activity data across 12 years of the Smoother Sailing program.

Table 1. Number of Data Sets for Each Construct and Effect Size Statistic

Construct	Standardized Mean Difference Effect Size (<i>d</i>)	One sample Cases Effect Size (Cohen's <i>h</i>)
Counselor Activities (Chapter 2)	2 Data Sets	3 Data Sets
Parent Satisfaction (Chapter 3)		3 Data Sets
Teacher Satisfaction (Chapter 3)	1 Data Set	2 Data Sets
Building Principal Satisfaction (Chapter 3)	3 Data Sets	
Student Self-esteem (Chapter 4)	2 Data Sets	
Student Behavior (Chapter 4)	2 Data Sets	
Student Knowledge (Chapter 4)	7 Data Sets	
Student Retention (Chapter 4)	1 Data Set	

The final stage that Cooper and Hedges (1994) address is the public presentation stage. In this stage, the synthesist reports the procedures used for the previous stages and places the results of the meta-analysis in context. Chapters 2, 3, and 4 were written as papers for submission to a refereed journal in the field of counseling. Each paper has a discussion of the results. This chapter also provides a forum for discussion of the implications of the results and suggestions for future research.

Recommendations arise from the comments above. Researchers need to be encouraged to report the type of information needed to conduct a meta-analysis. Meta-analyses are becoming more common in the literature and Hunt (1997) states that meta-analyses have a major place in contemporary scientific research. Authors of primary studies would serve their field of study by providing basic information needed to compute an effect size statistic. The information needed is a description of the participants, a description of the construct being measured, number of cases in the analyses, and a mean and standard deviation for all conditions and levels of the conditions. Without these basic data, meta-analytic researchers either cannot use the study or must estimate the missing data.

Elementary counseling programs, such as Smoother Sailing, would serve themselves well by collecting data consistently and reporting in detail definitions of constructs. The referral data cited earlier is an example of inconsistent definition and therefore unusable data for the meta-analysis in Chapter 2. Some of the counselor activity data from Chapter 2 were unusable because they were collected differently each year. The research questions determine the data that are collected. Changing the question every time the data are collected may not serve the program well over time. Aggregating the data for the meta-analysis becomes difficult, and sometimes impossible, because portions of data or entire data sets must be eliminated when the definition of the construct varies or the data are collected inconsistently.

Suggestions for future research

One of the principles on which the No Child Left Behind Act (P.L. 107-11) is founded on stronger accountability for student results (U. S. Department of Education, 2002). Elementary school counseling programs, such as the Smoother Sailing program, need to establish that they support and enhance student academic achievement (Dahir, 2001). Future research needs to establish how implementation of elementary school counseling programs supports students as they succeed in school. Additional evidence is needed about how the enhancement of students' emotional/social, career, and educational development helps all students become effective learners (Johnson, 2000).

Meta-analyses in the elementary school counseling field would assist school counselors in showing the impact of the counseling program on students as learners. Meta-analysis allows for the generalization of findings across populations, settings, and procedures (Cooper & Hedges, 1994). The results of these meta-analyses of the Smoother Sailing program suggest that consistent implementation of an elementary counseling program can impact student knowledge of content and skills within the counseling curriculum. The next step is to relate the students' knowledge of counseling curricular content and skills with general academic achievement and other indicators of success in school, such as school attendance or graduation.

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APPENDIX A. Outline of Smoother Sailing Program Curriculum

Outline of Smoother Sailing Program Curriculum

The Smoother Sailing program curriculum consists of five units taught by school counselors to an entire classroom of students or to small groups of students (See Table 1). The schedule for teaching these units is based on building needs. Counselors teach all five units in all grade levels, K-5, adjusting the content based on the developmental needs of students.

Table 1. Smoother Sailing Program Curriculum Units

Curriculum Unit
Academic and Career Exploration
Communication Skills
Life Skills
Personal Safety skills
Social Skills/Violence Prevention

APPENDIX B. Human Subjects Approval

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Human Subjects Research Office
2207 Pearson Hall, Room 15
Ames, IA 50011-2207
515/294-4566
FAX: 515/294-8000

DATE: November 29, 2001

TO: Mariann Culver

FROM: Janell Meldren, ^{YS}IRB Administrator

RE: "Impact of the Smoother Sailing Elementary School Guidance Program: A Meta-Analysis" IRB ID 02-200

TYPE OF APPLICATION: ☒ New Project ☐ Continuing Review ☐ Modification

The project, "Impact of the Smoother Sailing Elementary School Guidance Program: A Meta-Analysis" has been approved for one year from its IRB approval date November 29, 2001. University policy and Federal regulations (45 CFR 46) require that all research involving human subjects be reviewed by the Institutional Review Board (IRB) on a continuing basis at intervals appropriate to the degree of risk, but at least once per year.

Any modification of this research project must be submitted to the IRB for prior review and approval. Modifications include but are not limited to: changing the protocol or study procedures, changing investigators or sponsors (funding sources), including additional key personnel, changing the Informed Consent Document, an increase in the total number of subjects anticipated, or adding new materials (e.g., letters, advertisements, questionnaires).

You must promptly report any of the following to the IRB: (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.

The PI must retain the signed consent documents for at least three years past completion of the research activity. If the principal investigator terminates association with the University before that time, the signed informed consent documents should go to the DEO to be maintained.

You are expected to make sure that additional key personnel who are involved in human subjects research complete training prior to their interactions with human subjects. Web based training is available from our web site.

Eleven months from the IRB approval, you will receive a letter notifying you that the expiration date is approaching. At that time, you will need to fill out a Continuing Review/and or Modification Form and return it to the Human Subjects Research Office. If the project is, or will be finished in one year, you will need to fill out a Project Closure Form to officially end the project.

Both of these forms are on the Human Subjects Research Office web site at:
<http://grants-svr.admin.iastate.edu/VPR/humansubjects.html>.

Iowa State University Human Subjects Review Form

OFFICE USE ONLY		
EXPEDITED <input checked="" type="checkbox"/>	FULL COMMITTEE <input type="checkbox"/>	ID# <u>02-26</u>

PI Last Name Culver Title of Project Impact of the Smoother Sailing Elementary School Guidance Program: A Meta-Analysis

Checklist for Attachments

The following are attached (please check):

13. ☐ Letter or written statement to subjects indicating clearly:
- a) the purpose of the research
 - b) the use of any identifier codes (names, #s), how they will be used, and when they will be removed (see item 18)
 - c) an estimate of time needed for participation in the research
 - d) if applicable, the location of the research activity
 - e) how you will ensure confidentiality
 - f) in a longitudinal study, when and how you will contact subjects later
 - g) that participation is voluntary; nonparticipation will not affect evaluations of the subject
14. ☐ A copy of the consent form (if applicable)
15. ☒ Letter of approval for research from cooperating organizations or institutions (if applicable)
16. ☐ Data-gathering instruments

17. Anticipated dates for contact with subjects:

First contact
no contact
Month/Day/Year

Last contact
no contact
Month/Day/Year

18. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

Month/Day/Year

19. Signature of Departmental Executive Officer

Date

Department or Administrative Unit

Thomas Culver 11/15/01

20. Initial action by the Institutional Review Board (IRB):

- ☒ Project approved ☐ Pending Further Review ☐ Project not approved
- ☐ No action required
- Date Date Date

21. Follow-up action by the IRB:

Project approved ☐ Project not approved ☐ Project not resubmitted

Date Date Date

Rick Sharp
Name of IRB Chairperson

Rick Sharp
Signature of IRB Chairperson

11/29/01
Date

APPENDIX C. Letter of Approval to Conduct Research in District

**Student and Family Services**

October 22, 2001

Mrs. Mary Ann Culver
Consultant for School Improvement
Heartland Area Education Agency
6500 Corporate Drive
Johnston, Iowa 50131

Dear Mary Ann:

I am pleased to write a letter authorizing you to conducting research of the District's Smoother Sailing Program. Your proposed study will assist the counselors as we work to fine tune the program initiatives. In addition, it will have broader impact as the Smoother Sailing Program is being implemented throughout the nation.

The District counseling staff will assist you in your efforts. Jan Kuhl, Counseling and Guidance Coordinator and Virginia Traxler, the Smoother Sailing Grant Coordinator will be available to provide any information you need.

Again, we look forward to learning the results of your research and know that it will have a positive impact on the lives of many children and their families.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mary Lynne Jones".

Mary Lynne Jones, Deputy Director
Student and Family Services

APPENDIX D. Study-Level Coding Manual

Study-Level Coding Manual

Variable	Descriptor
Identification number:	Assigned by researcher
Source of study:	1=ERIC
	2=Board of Ed. report
	3=Archived data file
Location of study:	Name of file folder
Year of study	
Construct measured	
Title of instrument	
Specific items on instrument:	Each item is listed
Time of measurement:	1=pre-treatment
	2=post-treatment
Population:	Description
Sampling:	1=stratified random
	2=judgment or convenience
	3=random
	4=population
	5=not reported
Sample size:	Treatment group sample size
	Control group sample size
Participants:	1=counselors
	2=teachers
	3=administrators
	4=parents
	5=students
Grade level(s) in sample	
Effect size data:	Treatment group mean
	Treatment group standard deviation
	Control group mean
	Control group standard deviation
Test statistic:	<i>t</i> statistic
Proportion data:	Treatment group total number of responses
	Treatment group number of occurrences
	Treatment group proportion of occurrences
	Control group total number of responses
	Control group number of occurrences
	Control group proportion of occurrences
Analysis of variance:	Treatment group sum of squares
	Treatment group <i>F</i> statistic
	Treatment direction
	MS error
	Total sum of squares

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